

In the United States Court of Federal Claims

No. 12-382
(Filed: 19 January 2021)

BILOXI MARSH LANDS
CORPORATION, *et al.*,

Plaintiff,

v.

THE UNITED STATES,

Defendant.

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Motion for Summary Judgment; Cross-
Motion for Summary Judgment; Statute
of Limitations; Fifth Amendment Taking;
Stabilization Doctrine; Justifiable
Uncertainty; Erosion.

Camilo K. Salas, III, Salas & Co., L.C., of New Orleans, LA, for plaintiff.

Joshua P. Wilson, Trial Attorney, with whom were *Elizabeth McGurk*, Trial Attorney, and *Jean E. Williams*, Deputy Assistant Attorney General, Environment & Natural Resources Division, Natural Resources Section, Civil Division, Department of Justice, all of Washington, DC.

OPINION AND ORDER

HOLTE, Judge.

Plaintiffs Biloxi Marsh Lands Corporation (“Biloxi”), Lake Eugenie Land & Development, Inc. (“Lake Eugenie”), Borgnemouth Realty Co., Limited (“Borgnemouth”), The Livaudais Company, LLC (“Livaudais”), Terre Aux Boeufs Land Co., Inc. (“Terre Aux Boeufs”), and Vincent Marshlands, LLC (“Vincent Marshlands”) (collectively, “plaintiffs”), allege the United States permanently took their properties for public use through inverse condemnation, without providing them just compensation, in violation of the United States Constitution, federal statutes, and certain servitudes granted by plaintiffs and assigned to the United States. The government filed its motion for summary judgment on 28 September 2018, arguing plaintiffs’ takings claims are barred by a six-year statute of limitations. Plaintiffs filed a response to the government’s motion for summary judgment on 7 January 2019 and filed a cross-motion for partial summary judgment on the same issue 8 January 2019. This case was reassigned to the undersigned Judge on 29 July 2019. The Court conducted a site visit of the alleged takings and the parties presented evidence relating to the physical characteristics of the sites on 3 and 4 March 2020. On 21 April 2020, the Court held a status conference and directed plaintiffs to file supplemental papers listing various items in the record relating to subcategories of the allegedly taken land. Plaintiffs provided their list of facts in the record relating to each subcategory of land on 15 June 2020, and the government filed a response to plaintiffs’ list on 22

June 2020. The Court held oral argument on the cross-motions for summary judgment on 29 June 2020. Plaintiffs submitted an additional supplemental paper on the evidence in the record affecting a justifiable uncertainty analysis on 31 July 2020, and the government filed a supplemental paper in response on 25 August 2020. For the following reasons, the Court **GRANTS-IN-PART** and **DENIES-IN-PART** the government’s motion for summary judgment and **DENIES** plaintiffs’ cross-motion for summary judgment.

I. Factual History¹

A. The Mississippi River Gulf Outlet

In the 1940s there were three primary water navigation routes in southeast Louisiana: the Inner Harbor Navigation Canal (“IHNC”), the Gulf Intracoastal Waterway (“GIWW”), and the Mississippi River. Pls.’ Corrected Mem. Submitted (1) in Opp. to the U.S.’ Mot. for Summary Judgment on the Issue of the Timeliness of Pls.’ Takings Claims; and (2) in Supp. of Pls.’ Cross-Mot. for Summary Judgment on the Same Issue, ECF No. 110, (“Pls.’ Mot. for Partial Summ. J.”), Ex. 39 at 3-40 (Mississippi River Gulf Outlet (MRGO) Ecosystem Restoration Plan, Final Environmental Impact Statement (June 2012)). In 1956, Congress authorized construction of a fourth route—the Mississippi River Gulf Outlet (“MRGO”). Pls.’ Mot. for Partial Summ. J., Ex. 2 at 1 (U.S. Army Corps of Engineers, MRGO Design Memorandum No. 1-B). The 76-mile-long, 36-foot-deep, 650-foot surface width, and 500-foot bottom width channel would soon connect the IHNC and the 38-foot depth contour in the Gulf of Mexico. *Id.* at 1–3. The purpose of the MRGO “was to increase commerce by providing a direct connection between the port of New Orleans and the Gulf of Mexico.” *St. Bernard Parish Gov. v. United States*, 887 F.3d 1354, 1357 (Fed. Cir. 2018).

In March of 1956, the Port of New Orleans (“the Port”) became the designated non-federal sponsor of the MRGO. Pls.’ Mot. for Partial Summ. J., Ex. 2 at 1 (U.S. Army Corps of Engineers, MRGO Design Memorandum No. 1-B). As such, Port Commissioners pursued acquisition of lands and obtained acts of assurance of local cooperation, which included the furnishing of all lands, easements, rights-of-way, and spoil disposal areas by the State of Louisiana. *Id.* at 6.

In April of 1958, the Department of the Interior, in a draft preliminary report prepared for the Army Corps of Engineers (“USACE” or “the Corps”), predicted ecological damage would result from the construction and operation of the MRGO. *See United States Mot. for Summary Judgment and Supporting Mem.*, ECF No. 99, (“Gov. Mot. Summ. J.”), Ex. 1, at 8 (citing U.S. Department of the Interior, *An Interim Report on Fish and Wildlife Resources as Related to Mississippi River-Gulf Outlet Project, Louisiana and an Outline of Proposed Fish and Wildlife Studies* (1958)). In the report, the Secretary of the Department of the Interior wrote the Secretary of the Army, noting “*the project is of great concern to fish and wildlife conservationists*” and

¹ All facts in this section are undisputed, unless stated otherwise. *See* RCFC 56(a) (requiring a movant for summary judgment to show “there is no genuine dispute as to any material fact.”). The Court draws all inferences “in the light most favorable to the party opposing the motion.” *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587–88 (1986).

“the project plans had not been investigated by fish and wildlife conservation agencies, as contemplated in Wildlife Coordination Act of August 14, 1946.” *Id.* (emphasis added in the government’s brief).

Without further agency investigation, the Corps began construction of the outlet in 1958, dredging shallow bays, coastal marshes, and cypress swamps. Pls.’ Mot. for Partial Summ. J., Ex. 51 at 2 (U.S. Army Corps of Engineers, MRGO Deep Draft De-authorization Study: Executive Summary). Construction of the MRGO cut through Bayous Bienvenue, Dupre, La Loutre, and the Bayou La Loutre Ridge and resulted in the direct connection of Lake Borgne to the Gulf of Mexico through Breton Sound. Pls.’ Mot. for Partial Summ. J., Ex. 39 at 3-40 (Mississippi River Gulf Outlet (MGRO) Ecosystem Restoration Plan, Final Environmental Impact Statement (June 2012)). In 1965, Congress authorized construction of a hurricane protection levee along the south bank of the MRGO. Pub. L. No. 89-298, 79 Stat. 1073 (Oct. 27, 1965).

The Corps completed construction of the MRGO in 1968. *St. Bernard Parish Gov.*, 887 F.3d at 1357. From 1968 to 2009, the MRGO provided deep water vessels direct access from the Gulf of Mexico to the Port of New Orleans. Pls.’ Resp./Opp. to the U.S.’ Mot. to Dismiss the Compl. for Lack of Jurisdiction, ECF No. 14 (“Pls.’ Resp. to Mot. to Dismiss”), Ex. 2, pt. 1 at iv (U.S. Army Corps of Engineers, Integrated Final Report to Congress and Legislative Environmental Impact Statement for the MRGO Deep-Draft De-authorization Study (November 2007)); Pls.’ Mot. for Partial Summ. J., Ex. 51 at 2 (U.S. Army Corps of Engineers, MRGO Deep Draft De-authorization Study: Executive Summary). The MRGO extended approximately 70 miles from Breton Sound to eastern New Orleans, traversing wetlands and marshes in Plaquemines, St. Bernard, and eastern Orleans Parishes. Pls.’ Mot. for Partial Summ. J., Ex. 39 at 3-28 (Mississippi River Gulf Outlet (MGRO) Ecosystem Restoration Plan, Final Environmental Impact Statement (June 2012)). The MRGO provided a pathway for large ships to do business at the Port and created jobs reliant on the channel. *Id.* at 3-40–3-41. With those ships and jobs, however, came saltwater and damaging ecological change to the area surrounding the MRGO. Pls.’ Resp. to Mot. to Dismiss, Ex. 2, pt. 1, at iv (U.S. Army Corps of Engineers, Integrated Final Report to Congress and Legislative Environmental Impact Statement for the MRGO Deep-Draft De-authorization Study (November 2007)).

B. Environmental Damage and Restoration: Reports and Legislation

Construction of the MRGO converted and eliminated thousands of acres of wetlands. *Id.* at iv. The “[m]ost significant environmental effects occurred in the first 20 years after the MRGO [was] constructed.” Pls.’ Mot. for Partial Summ. J., Ex. 56 at 43 (U.S. Army Corps of Engineers, MRGO Studies). In the first 20 years, construction destroyed 2,500 acres of wetlands and erosion along the banks of the newly constructed MRGO destroyed an additional 4,220 acres. *Id.*

In October 1972, Coastal Environments, Inc., prepared an Environmental Baseline Study for the St. Bernard Parish Police Jury. *See* Gov. Mot. for Summ. J., Ex. 19 (St. Bernard Parish Policy Jury, Environmental Baseline Study (October 1972)). The purpose of the study was “to provide an environmental baseline of [St. Bernard] parish as it currently exists, taking into

consideration cultural and natural factors that have modified the landscape . . . [and] to set management guidelines for the system and provide a basis upon which future modifications to the environment can be judged with a high degree of predictability concerning probable impact.” *Id.* at 2. In relation to the MRGO, the study stated:

Of all navigation channels in coastal Louisiana, the [MRGO] has probably had the greatest environmental impact. . . . Construction of the channel destroyed 23,606 acres of marsh and shallow nursery areas—17,058 acres of spoil deposition and 6,548 acres by deepening.

Secondary effects are equally serious. The channel has greatly altered the hydrology and water chemistry of adjacent estuarine areas. The large cross-section of the area provides an avenue of ingress and egress for runoff tidal waters. Changes in salinity are well-documented. Recording stations in the vicinity of the channel show significant changes after the canal was opened (about 1959) and completed (1962).

. . . The thick sequence of poorly consolidated sediment through which the channel was excavated has created highly unstable bank conditions and massive slumping is common. . . . The result of this condition has been a continuous and costly program of maintenance dredging. Undesirable effects of this dredging include increased turbidity and the impact on fauna and flora of spoil disposal.

Id. at 86–88, 93 (internal citation omitted). According to the 1972 study, “signs of deterioration [were] evident in the death of trees and opening up of water bodies” and the “change in water regime seems to be the main cause of deterioration.” *Id.* at 65–66. The study states, “[t]he MRGO has introduced higher salinities into the study area” and cites drastic changes in parts per thousand at Lake Borgne stations BDL and I-3 “from an average surface salinity of 3.0 ppt in 1959–61 to 10.4 ppt in 1962–64, an increase of over three times.” *Id.* at 66.

In 1982, Coastal Environments, Inc., prepared an additional study. *See* Gov. Mot. for Summ. J., Ex. 18 (St. Bernard Parish Police Jury, St. Bernard Parish: A Study in Wetland Management (1982)). The study explains, “[o]ne of the major causes of wetland deterioration in St. Bernard Parish appears to be closely related to the proliferation of deep navigation and drainage canals connecting the Gulf and interior wetlands.” *Id.* at 117. The study continues, “[s]ome of the more noticeable primary and secondary environmental impacts often attributable to canals [include] . . . saltwater intrusion, . . . erosion . . . and consequent loss of marshlands, . . . loss of stable, lower salinity estuarine nursery areas, [and] loss of biological diversity as nonsalt-tolerant [sic] species are squeezed out by higher salinities.” *Id.*

In November 1984, the Corps prepared a study of the area. *See* Pls.’ Mot. for Partial Summ. J., Ex. 40 (U.S. Army Corps of Engineers, Louisiana Coastal Area, Louisiana—Land Loss and Marsh Creation—Initial Evaluation Report (November 1984)) (“1984 Initial Evaluation Study”). Therein, the Corps stated “[t]he marshes are disappearing at the alarming rate of 39.6 square miles per year due to compaction, subsidence, sea level rise, erosion, saltwater intrusion, and man’s activities. The land loss trend is expected to continue and, by year 2040, about

1,000,000 acres of wetlands could disappear beneath the gulf.” *Id.* at Syllabus. The study presented “the findings of the initial evaluation study of plans to reduce land loss and create marsh in the coastal area of Louisiana.” *Id.* at 1. The Corps noted “[a]s a result of the analysis of changing conditions, the needs and opportunities and concerns of Federal, state, and local interests, . . . objectives were established.” *Id.* at 62. These objectives included: “Create marsh to offset losses”; “[e]nhance marsh vegetative growth to reduce marsh losses and increase the nutrient and detritus supply for fish and wildlife production”; and “[r]educe subsidence, erosion, and saltwater intrusion to reduce marsh losses.” *Id.*

In 1986 Congress enacted the Water Resources and Development Act (“WRDA”), which in part instructs the “Secretary of USACE to determine the need for modifications in the structure and operations of [the MRGO] for the purpose of improving the quality of the environment” Pls.’ Mot. for Partial Summ. J. at 25. In 1988, the Corps conducted a reconnaissance study of the MRGO’s bank erosion and erosion-related problems in Orleans and St. Bernard Parishes, Louisiana. *Id.* at 8–9. The purpose of the study was to:

[D]efine the extent of erosion and erosion-related problems projected to occur in the study area; identify opportunities to implement potential solutions to the defined problems; appraise Federal interest in potential solutions[;] . . . determine, based on the appraisal, whether planning should proceed beyond the reconnaissance phase into more detailed feasibility phase considerations; estimate the time and cost required to complete feasibility phase studies if Federal interest is indicated; and assess the level of interest and support of non-Federal interests in the identified potential solutions to defined problems.

Pls.’ Mot. for Partial Summ. J., Ex. 7 (Mississippi River-Gulf Outlet St. Bernard Parish, La.—Bank Erosion—Reconnaissance Report, February 1988) (“1988 Reconnaissance Report”) at 2–3. The Corps warned of erosion if there were no remedial actions:

The unleveed banks of the MRGO will continue to erode in the absence of remedial action. Currently, banks of the unleveed reached are retreating at rates from five to over 40 feet per year. The average rate of retreat of the north bank in the 41-mile land cut portion of the waterway is 15 ft per year. Failure to reduce bank erosion will result in a significant increase in the required maintenance dredging of the waterway in the future. Annual average maintenance dredging requirements are projected to increase six-fold within the next 15 years (by the year 2002).

Id. at 30–31.

In 1990, Congress passed the Water Resource Development Act of 1990, directing the Secretary of the Army to “include environmental protection as one of the primary missions of the Corps of Engineers in planning, designing, construction, operating, and maintaining water resources projects” and stating the Corps shall have “an interim goal of no overall net loss of the Nation’s remaining wetlands base, as defined by acreage and function, and a long-term goal to increase the quality and quantity of the Nation’s wetlands, as defined by acreage and function.”

Water Resource Development Act of 1990, Pub. L. No. 101-640, tit. III, § 307(a), 104 Stat. 4604 (1990) (codified at 33 U.S.C. § 2317) (“1990 WRDA”). Additional legislation in 1990 included the Coastal Wetlands Planning, Protection and Restoration Act (the “Breaux Act”), which directed the Corps to establish a comprehensive plan to restore Louisiana wetlands and called for the development of annual lists of “priority projects” which would “provide for the long-term conservation of [Louisiana’s] wetlands” Pls.’ Mot. for Partial Summ. J., Ex. 42 at 3–4 (1994 MRGO Bank Erosion Reconnaissance Report). In 1993, a task force submitted a plan to restore and prevent further loss of Louisiana wetlands by “increas[ing] sediment and freshwater input into coastal estuaries” so as to “restart the natural processes of land building and maintenance.” Pls.’ Mot. for Partial Summ. J., Ex. 41 at 9 (1993 Louisiana Coastal Wetlands Restoration Plan). The task force behind the 1993 Louisiana Coastal Wetlands Restoration Plan developed a “comprehensive approach to restore and prevent the loss of coastal wetlands in Louisiana” by using hydrologic restoration, shoreline protection, marsh creation with dredged materials, and marsh management. *Id.* at 4, 9.

The Breaux Act required the Corps to establish a comprehensive plan to restore Louisiana wetlands exclusively. Pls.’ Mot. for Partial Summ. J. at 39. The act authorized 143 projects to “create, protect, or restore over 120,000 acres of wetlands in coastal Louisiana” and dedicated \$40 million annually to restoring wetlands in Louisiana and was still being implemented through 2001 or later. *Id.*

In 2000, the Environmental Protection Agency (“EPA”) suggested closure of the MRGO at the Bayou LaLoutre Ridge and offered a 10-year program to restore and manage wetland resources, including freshwater diversions into the Central Wetlands area. Pls.’ Mot. for Partial Summ. J., Ex. 45 at 2–3 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). The report recognized the substantial land erosion caused by the MRGO and declared “[a]s long as the MRGO remains authorized to provide deep-draft navigation, ecosystem protection measures are critically needed to minimize further wetland loss and preserve the opportunities for future restoration.” *Id.* at 2. Recommendations by the report included construction of rock breakwaters along the shores of the MRGO, the beneficial use of dredged material for marsh creation, freshwater introduction, barrier island restoration, and “channel modification to develop a suite of measures to stabilize and maintain important estuarine components. *Id.* at 3.

Four years later, the Corps’ “Louisiana Coastal Area, Ecosystem Restoration Study” disclosed the “rate of wetland loss in the area is accelerating” and “rapid action is required to protect the integrity of the southern Lake Borgne shoreline and to prevent continued erosion of the MRGO channel banks from ocean going vessel wakes.” Pls.’ Mot. for Partial Summ. J., Ex. 45 at 32 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). In the same 2004 study, the Corps proposed building “38 miles of rock breakwaters to prevent the merger of the MRGO into Lake Borgne, facilitating wetland creation by using dedicated dredging and/or beneficial use of dredged materials behind the breakwaters, and freshwater introduction into the marsh through Mississippi River diversions.” *Id.* The Corps’ “Operations and Maintenance Bank Protection” program completed, scheduled, or proposed installation of foreshore protection, dredged material retention, and articulated mattress along over 90 percent of the length of the MRGO. Pls.’ Reply

Br. Submitted (1) in Opp. to the U.S.' Mot. for Summary Judgment on the Issue of the Timeliness of the Pls.' Takings Claims and (2) in Supp. of Pls.' Cross-Mot. for Summary Judgment on the Same Issue, ECF No. 135, ("Pls.' Reply Br. Opp'n"), Ex. 57 at 1.

C. The MRGO After Hurricane Katrina

"Hurricane Katrina was 'one of the most devastating hurricanes that has ever hit the United States, generating the largest storm surge elevations in the history of the United States.'" *St. Bernard Parish Gov.*, 887 F.3d at 1358 (quoting *In re Katrina Canal Breaches Consol. Litig.*, 647 F.Supp.2d 644, 678 (E.D. La. 2009)). Katrina caused severe shoaling in the MRGO, which in turn drastically changed the channel depth of the outlet. Pls.' Mot. for Partial Summ. J., Ex. 51 at 3 (U.S. Army Corps of Engineers, MRGO Deep Draft De-authorization Study: Executive Summary). After the 2005 Hurricane season, the MRGO was not navigable as a deep draft waterway. *Id.* Dredging to restore the outlet to its originally authorized dimensions would have cost over \$133 million. *Id.* To avoid re-dredging, the Corps limited its maintenance of the outlet to provide for only one-way traffic. *Id.* at 7. The Corps thereafter stopped all maintenance dredging of the MRGO in 2006, thereby halting the beneficial use of dredged materials programs. Pls.' Mot. for Partial Summ. J. at 3. In light of the damage to the MRGO and the high cost of fixing the damage, the Corps recommended total closure of the MRGO by erection of a rock dike across its entire width and the construction of other "rock dikes that protect wetlands along the MRGO." Pls.' Mot. for Partial Summ. J., Ex. 51 at 13 (U.S. Army Corps of Engineers, MRGO Deep Draft De-authorization Study: Executive Summary).

In 2007, the Corps stated in a report to Congress "habitat shifts caused by saline waters brought in by the MRGO might have caused . . . 3,350 acres of fresh/intermediate marsh and 8,000 acres of cypress swamp [to be] converted to brackish marsh and 19,170 acres of brackish marsh and swamp [to] become saline marsh." Pls.' Mot. for Partial Summ. J., Ex. 52 at iv (Integrated Final Report to Congress and Legislative Environmental Impact Statement for the Mississippi River-Gulf Outlet Deep-Draft De-authorization Study). In addition, the Corps noted "[b]ank erosion along the MRGO has been estimated to occur at rates of between 27 and 38 feet per year" and "[b]etween 1964 and 1996, 5,324 acres of marsh have been lost adjacent to the MRGO channel" *Id.*

The Corps announced a plan in 2007 to close the MRGO by 9 July 2009 because of the cost associated with repair and the potential for great ecological harm. Pls.' Resp. to Mot. to Dismiss, Ex. 2, pt. 1 at 3 (U.S. Army Corps of Engineers, Integrated Final Report to Congress and Legislative Environmental Impact Statement for the MRGO Deep-Draft De-authorization Study (November 2007)). The Corps further published plans outlining ongoing, scheduled, and proposed restoration efforts to bolster the wetlands areas affected by the MRGO. *Id.* at 6–7. Congress again passed the WRDA in 2007 and authorized restoration projects paired with a federally funded study. The projects required a non-federal partner to agree to bear costs alongside the federal government, but no such partner came forward. *Id.*

On 2 October 2008 the Corps announced it was developing a "comprehensive ecosystem restoration plan to restore the areas affected by the MRGO navigation channel." Intent to Prepare a Draft Environmental Impact Statement for the Mississippi River-Gulf Outlet

Ecosystem Restoration Feasibility Study, 73 Fed. Reg. 57,340, 57,341 (Sep. 23, 2008). The announcement included the following goals:

(1) Physically modifying the MRGO channel and restoring areas affected by the channel; (2) restoring natural ecosystem features to reduce damage from storm surge; (3) measures preventing saltwater intrusion into the waterway; (4) measures protecting, restoring or increasing wetlands to prevent saltwater intrusion or storm surge; (5) measures reducing risk of storm damage to communities by preventing or reducing wetland losses or restoring wetlands.

Id. The Corps officially de-authorized the MRGO from the Gulf Intracoastal Waterway to the Gulf of Mexico in accordance with the 2007 WRDA on 5 June 2008. Amended Compl., ECF No. 37 (“Am. Compl.”), Ex. 2 at xvii–xviii. The outlet officially closed on 9 July 2009. *Id.*

Congress and the President directed the Corps to develop a full range of flood control, coastal restoration, and hurricane protection measures exclusive of normal policy considerations for South Louisiana through the Coast 2050 Plan, the 2004 LCA Plan, the Breaux Act, and the 2007 WRDA. *See* Pls.’ List of Citations and Excerpts in Chronological Order Which Correspond to Each of the Agreed Subunits in a “Justifiable Uncertainty” Analysis, ECF No. 165 (“Pls.’ Supp. Paper”) at 8–9, 27–28. These directions included the creation of a long-term, comprehensive plan “for protecting, preserving, and restoring Coastal Louisiana ecosystem.” Pls.’ Mot. for Partial Summ. J., Ex. 49 (U.S. Army Corps of Engineers, Lake Borgne – Mississippi River Gulf Outlet Shoreline Protection (PO-32), St. Bernard Parish, Louisiana, Final Design Report (December 2004)).

The Corps separated project goals into two categories in its 2012 Final Feasibility Report: “geomorphic” and “habitat specific.” Pls.’ Reply Br. Opp’n, Ex. 55 at S-12 and S-13 (U.S. Army Corps of Engineers, Mississippi River Gulf Outlet (MRGO) Ecosystem Restoration Plan: Final Feasibility Report (June 2012)) (“2012 Feasibility Report”); *see also* Pls.’ Mot. for Partial Summ. J., Ex. 39, at ES-1 (Mississippi River Gulf Outlet (MGRO) Ecosystem Restoration Plan, Final Environmental Impact Statement (June 2012)). In the category dedicated to habitat-specific goals, the Corps stated one goal is “to restore historic salinity conditions in the study area, restore native habitat acreages impacted by the MRGO and their ecosystem functions, and increase the year-round spatial coverage of critical landscape features that provide hurricane and storm surge damage risk reduction in the study area.” 2012 Feasibility Report at S-12 and S-13.

D. Plaintiffs’ Land Ownership

Property owners collectively lost thousands of acres of land since construction of the MRGO. Pls.’ Resp. to Mot. to Dismiss., Ex. 2, pt. 1 at iv (U.S. Army Corps of Engineers, Integrated Final Report to Congress and Legislative Environmental Impact Statement for the MRGO Deep-Draft De-authorization Study (November 2007)). Plaintiffs are six property owners with land in the area around the MRGO who allege the Corps, through the construction and maintenance of the MRGO, took their land “for public use without exercising the power of eminent domain and without providing plaintiffs just compensation in violation of the U.S. Constitution.” Am. Compl. at 1.

The United States obtained servitudes from landowners, including plaintiffs, which permitted use of land within 1,500 feet from the channel's original centerline. *Id.* at 4. Specifically, plaintiff Biloxi granted to the United States "a right of entry in and to any and all lands [it] owned . . . in that portion of the Parish of St. Bernard, State of Louisiana, lying south and east of Bayou La Loutre, for the purpose of such dredging and spoil disposal operations." *Id.* at 5–6. At about the same time—the exact date being unknown at this time due to the destruction of records at the St. Bernard Parish Court House caused by Hurricane Katrina in 2005—plaintiffs Lake Eugenie, Borgnemouth, Livaudais, and Vincent Marshland granted to the Port similar 1,500-foot-wide servitudes, on land owned by these companies, for the construction and maintenance of the MRGO. *Id.* at 6; *see also* Gov. Mot. for Summ. J., Exs. 1–4 (four plaintiffs' complaints, later consolidated as the present case). Each plaintiff also granted to the Port a right of entry and temporary spoil disposal servitudes, which the Port assigned to the United States through the Corps. *Id.*

Plaintiffs own separate pieces of land throughout the affected region. *See, e.g.,* Am. Compl. at 3–7. Plaintiffs Biloxi and Lake Eugenie own property in the Biloxi Marsh and have their principal places of business in Metairie, Louisiana. Am. Compl. at 6. Plaintiff Terre Aux Boeufs also owns property in Biloxi Marsh complex, plus a separate plot south of the MRGO. Gov. Mot. for Summ. J., Ex. 3 at 4 (Compl., *Terre Aux Boeufs Land Co., Inc.*, 15-710, ECF No. 1 (July 8, 2015)). Terre Aux Boeufs's business operates out of New Orleans, Louisiana. *Id.* at 3. The property Borgnemouth owns consists of around 7,000 acres and includes Proctor's Point, the coastline peninsula landmark cutting into Lake Borgne. Gov. Mot. for Summ. J., Ex. 2 (Compl., *The Borgnemouth Realty Co., Limited and The Livaudais Company, L.L.C. v. U.S.* 14-3, ECF No. 1 (January 2, 2014)). Borgnemouth's two tracts of land span from Proctor's Point to the MRGO and southwest of the MRGO. *Id.* at 9. The land Livaudais owns consists of two tracts "located just north of and adjacent to" the land Borgnemouth owns. *Id.* at 5. Livaudais also owns an undivided one-sixth interest in the area known as the Golden Triangle. *Id.* Borgnemouth and Livaudais operate out of Meraux, Louisiana. *Id.* at 3. Vincent Marshlands is based in Harahan, Louisiana. Gov. Mot. for Summ. J., Ex. 4. Vincent Marshlands owns an undivided one-half interest in the Chalmette Meadows Property the MRGO touches. *Id.* Trinity Church, a Louisiana nonprofit corporation ("Trinity Church"); the Rector and Visitors of the University of Virginia, a Virginia public corporation ("University of Virginia"); and the Administrators of Tulane Educational Fund, a Louisiana nonprofit corporation ("Tulane University") formed Vincent Marshlands in October 2008 to manage their respective one-third shares of an undivided one-half interest in the Chalmette Meadows Property. *Id.* Hugh E. Vincent and Frank B. Hayne, Sr. acquired the Chalmette Meadows Property in December 1916. *Id.* Upon his death, Hugh E. Vincent left his undivided interest to these three entities. *Id.*

II. Procedural Background

On 15 June 2012, plaintiffs Biloxi and Lake Eugenie filed a complaint alleging the government's permanent taking of plaintiffs' property without just compensation in violation of the Takings Clause of the Fifth Amendment to the United States Constitution. *See* Compl., ECF No. 1. The government filed a motion to dismiss on 31 August 2012. *See* United States' Mot. to Dismiss for Lack of Subject Matter Jurisdiction and Support Mem., ECF No. 9 ("Gov.'s Mot. to

Dismiss”). Plaintiffs filed a response in opposition to the motion to dismiss on 2 November 2012, and the government filed a reply in support of its motion to dismiss on 30 November 2012. *See* Pls.’ Resp. to Mot. to Dismiss; Reply Mem. of Law in Support of the U.S.’ Mot. to Dismiss the Compl. for Lack of Jurisdiction, ECF No. 17. On 24 June 2013, the then undersigned judge denied the government’s motion to dismiss, stating “[p]laintiffs are not clearly without our jurisdiction” as “whether the statute of limitations has run depends on questions of predictability and mitigation” not well addressed at the motion to dismiss stage. Order and Opinion, ECF No. 18 at 3.

Plaintiffs filed an amended complaint on 29 October 2013. *See* Am. Compl., ECF No. 37. This case was consolidated with *Borgnemouth Realty Co. v. United States* on 22 July 2015 and was further consolidated with *Terre Aux Boeufs Land Co., Inc. v. United States* on 30 January 2018. *See* Order, ECF No. 59; Order Consolidating Related Matters, Granting-in-Part the Gov.’s Mot. to Vacate, and Pre-Trial Scheduling Order, ECF No. 91. The government filed its motion for summary judgment on 28 September 2018, arguing plaintiffs’ takings claims are barred by a six-year statute of limitations and the court therefore lacks subject matter jurisdiction to consider them. *See* Gov’t Mot. for Summ. J. Plaintiffs filed their response to the government’s motion for summary judgment on 7 January 2019 and their cross-motion for partial summary judgment on 8 January 2019. *See* Pls.’ Mem. Submitted (1) in Opp. to the U.S.’ Mot. for Summary Judgment on the Issue of the Timeliness of Pls.’ Takings Claims; and (2) in Supp. of Pls.’ Mot. for Summary Judgment on the Same Issue, ECF No. 104; Pls.’ Mot. for Summary Judgment on the Issue of the Timeliness of the Pls.’ Takings Claims, ECF No. 105. Plaintiffs corrected their response to the government’s motion for summary judgment and their cross-motion for partial summary judgment on 12 February 2019. *See* Pls.’ Mot. for Partial Summ. J. The government filed a reply in support of its motion for summary judgment and response to plaintiffs’ cross-motion for summary judgment on 16 April 2019. *See* U.S.’ Reply. Mem. in Supp. of its Mot. for Summary Judgment and Resp. to Pls.’ Cross-Mot. for Summary Judgment, ECF No. 132 (“Gov.’s Reply”). Plaintiffs filed a reply brief in support of its cross-motion for partial summary judgment on 29 May 2019. *See* Pls.’ Reply Br. Opp’n.

On 29 July 2019, this case was reassigned to the undersigned Judge. *See* Order, ECF No. 136. The Court scheduled a site visit and oral argument on the parties’ cross-motions for summary judgment in New Orleans, Louisiana. *See* Order, ECF No. 147. The Court conducted a visit of the sites of the alleged takings on 3 March and 4 March 2020. *Id.* An emergency involving inclement weather prevented the Court from hearing oral argument on the cross-motions for summary judgment on 5 March 2020. On 21 April 2020, the Court held a telephonic status conference in this matter and, pursuant to agreement during the conference, directed plaintiffs’ counsel to “submit a list of details in the record which correspond to each of the divisions of property as plaintiffs’ arguments allege in pleadings and exhibits.” Order, ECF No. 152. Plaintiffs filed their “list of details thus far found in the record” on 15 June 2020, and the government filed a response to plaintiffs’ “list of details thus far found in the record” on 22 June 2020. *See* Pls.’ List of Details Found in the Record that Correspond to Each of the General Geographic Divisions of Properties Adopted for Purposes of Oral Argument, ECF No. 157 (“Pls.’ Paper”); U.S.’ Response to Pls.’ List of Record Details Corresponding to the Parties’ Agreed General Geographic Divisions, ECF No. 158. The Court held oral argument on the cross-motions for summary judgment in Washington, DC, on 29 June 2020. *See* Order, ECF No.

159. As agreed to by all counsel during the 29 June oral argument, the Court ordered both parties to submit additional supplemental papers “containing description[s] of items in the summary judgment record currently before the Court that apply to a ‘justifiable uncertainty’ analysis corresponding to each of the agreed subunits.” Order, ECF No. 160. Plaintiffs filed their supplemental paper on 31 July 2020, and the government filed its supplemental paper on 25 August 2020. *See* Pls.’ Supp. Paper; U.S.’ Response to Pls.’ “List of Citations and Excerpts” (ECF 165) and Memorandum (ECF 166) Regarding Pls.’ “Justifiable Uncertainty” Argument, ECF No. 167 (“Gov.’s Resp. to Pls.’ Supp. Paper”).

III. Jurisdiction

“The Tucker Act, 28 U.S.C. § 1491 (a)(1), provides the Court of Federal Claims with jurisdiction over takings claims brought against the United States.” *Casitas Mun. Water Dist. v. United States*, 708 F.3d 1340, 1359 (Fed. Cir. 2013) (citation omitted). “Every claim of which the United States Court of Federal Claims has jurisdiction shall be barred unless the petition thereon is filed within six years after such claim first accrues.” 28 U.S.C. § 2501 (2012). Pursuant to Rule 12(h)(3) of the Rules of the United States Court of Federal Claims (“RCFC”), “[i]f the court determines at any time that it lacks subject-matter jurisdiction, the court must dismiss the action.” RCFC 12(h)(3). “Because the statute of limitations is jurisdictional, the plaintiff bears the burden of proof.” *Petro-Hunt, L.L.C. v. United States*, 862 F.3d 1370, 1378 (Fed. Cir. 2017).

“A grant of summary judgment is appropriate when the pleadings, affidavits and evidentiary materials filed in a case reveal that ‘there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.’” *Lippmann v. United States*, 127 Fed. Cl. 238, 244 (2016) (citing RCFC 56(a)). A “genuine” dispute occurs when “the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A fact is “material” when it could “affect the outcome of the suit under the governing law.” *Id.* The Court draws all inferences “in the light most favorable to the party opposing the motion.” *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587–88 (1986). These “standard[s] also appl[y] when the Court considers cross-motions for summary judgment.” *Lippmann*, 127 Fed. Cl. at 244.

IV. Parties’ Arguments

In support of its motion for summary judgment, the government argues: (1) plaintiffs’ takings claims are based upon effects of the MRGO which have been well documented since the 1960s and plaintiffs “knew or should have been aware of the facts that underline its claim since at least the 1980s,” making its claims barred by the six year statute of limitations; (2) the government “never promised, or undertook any action to restore Plaintiffs’ land to its pre-MRGO condition” and continuously operated it “in precisely the same activities—*i.e.*, maintaining, operating, and dredging the MRGO—that Plaintiffs contend cause[d] the alleged taking of their property”; and (3) “information and data available to Plaintiffs during [the] 1970’s and 1980’s was sufficient to allow Plaintiffs to understand and pursue a takings claim,” but plaintiffs could have filed their claims as late as 2005 when similar plaintiffs filed claims in *St. Bernard Parish Government v. United States*, 887 F. 3d 1354 (Fed. Cir. 2018), alleging “the MRGO caused

erosion and habitat change on the wetlands surrounding the MRGO . . . [and] that those environmental changes exacerbated storm surge during Hurricane Katrina, which, in turn, caused the levees to overtop, and led to flooding on their properties.” *See* Gov. Mot. for Summ. J. at 26–43.

Plaintiffs argue in response: (1) plaintiffs’ takings claims did not accrue in the 1980s because plaintiffs allege a gradual takings claim, which “does not reach a stabilized condition, and hence . . . has not accrued, if the property owner has ‘justifiable uncertainty’ about whether his or her loss is permanent or reversible,” and here, plaintiffs’ claims have not stabilized as the MRGO’s effects are continuing and ongoing; (2) the “Corps of Engineers and other federal agencies have for many years undertaken enormous projects to mitigate” damage caused by the MRGO and “[t]hese mitigation efforts created uncertainty about the fate of plaintiffs’ properties and thereby delayed the running of the [statute of limitations]”; (3) the government itself did not know in the 1980s “what was the cause or extent of the erosion around the MRGO[.] [therefore,] . . . the House of Representatives requested in 1982 that the Corps prepare a report providing information about the cause of the erosion. The Corps did not complete the report until . . . 1988.” This report “recommended . . . additional studies be made . . . [which] were re-started in 1992 and a new report . . . issued in 1994”; (4) “[t]he government has mitigated the effects of the MRGO through marsh creation and foreshore protection since at least 1980[.] . . . [and t]he government has issued many reports regarding the effects of the MRGO, but has never stated that the damage was irreversible”; and (5) in *St. Bernard*, “the Court held that the MRGO did not stabilize until its closing in 2009, which is the same position plaintiffs take her [sic],” therefore making their claims timely. Pls.’ Mot. for Partial Summ. J. at 40–56 (emphasis in original).

After oral argument on the parties’ cross-motions for summary judgment, the Court ordered the parties to submit supplemental papers containing a list of citations in the summary judgment record detailing proposed or completed projects applying a “justifiable uncertainty” analysis to each of the agreed geographical subunits. *See* Order, ECF No. 160. On 31 July 2020, plaintiffs submitted their supplemental paper, arguing: (1) “Subunit 13 was directly and indirectly impacted by the MRGO”; (2) “Subunit[] 21 . . . [was] indirectly impacted by the MRGO through the placement of spoil material and hydrologic changes”; (3) “Subunit 06 is adjacent to the Lake Borgne ecosystem and the offshore portion of the MRGO was dredged in the vicinity [sic]”; (4) “Subunits 07 and 18 were directly and indirectly impacted by the MRGO”; (5) “Subunit 32 was directly affected by the dredging and placement of material during construction of the channel”; and (6) “Subunit 40 was directly and indirectly impacted by the MRGO.” Pls.’ Supp. Paper at 1–2.

On 25 August 2020, the government filed its reply to plaintiffs’ supplemental paper, arguing “[p]laintiffs’ further citations to the record do not support their argument that [p]laintiffs were ‘justified’ in delaying their takings claims” because “[p]laintiffs continue to rely upon a scattershot of local, state, and federal projects proposed at various times, for various reasons and with varying results over the course of 60 years.” *See* Gov.’s Resp. to Pls.’ Supp. Paper. Specifically, the government claims “[m]any of these proposals were never implemented and most were unrelated to any genuine effort to remediate the specific physical changes to property underlying [p]laintiffs’ taking claims.” *Id.*

V. Applicable Law

“A claim under the Tucker Act, including takings claims, ‘first accrues only when all the events which fix the government’s alleged liability have occurred *and* the plaintiff was or should have been aware of their existence.’” *Casitas Mut. Water Dist.*, 708 F.3d at 1359 (citing *Hopland Band of Pomo Indians v. United States*, 855 F.2d 1573, 1577 (Fed. Cir. 1988) (emphasis in original)). “[T]he key date for accrual purposes is the date on which the plaintiff’s land has been clearly and permanently taken.” *Boling v. United States*, 220 F.3d 1365, 1370 (Fed. Cir. 2000). “However, in cases where the government leaves the taking of property to a gradual physical process, rather than utilizing the traditional condemnation procedure, determining the exact moment of claim accrual is difficult.” *Id.* When a taking occurs through gradual processes, two applicable doctrines assist in determining when the statute of limitations begins to run: stabilization and justifiable uncertainty. *See United States v. Dickinson*, 331 U.S. 745, 749 (1947) (explaining the accrual of a claim through gradual processes is delayed until the taking has “stabilized”); *see also Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994) (discussing how government promises to restore land keep landowners “justifiably uncertain about the permanency of the erosion and the taking”).

A. Stabilization Doctrine

The Supreme Court first addressed the relationship between an alleged taking through intermittent flooding and the stabilization doctrine in *United States v. Dickinson*, 331 U.S. at 746–47. In *Dickinson*, the alleged taking related to the government’s construction of a dam and the subsequent permanent flooding of nearby landowners’ property stemming from the rise in water levels. *Id.* at 746. To determine when the statute of limitations on a takings claim began to run, the Court defined a taking in the context of the Just Compensation Clause, stating “[p]roperty is taken in the constitutional sense when inroads are made upon an owner’s use of it to an extent that, as between private parties, a servitude has been acquired either by agreement in course of time.” *Id.* at 748. Acknowledging the difficulties facing a property owner in “determining the decisive moment in the process of acquisition by the United States” of property through a gradual taking process, the Court focused on the principles of fairness under the Fifth Amendment by specifically noting the Fifth Amendment does not operate as “a technical rule of procedure” regarding causes of action. *See id.* at 748 (“The Fifth Amendment expresses a principle of fairness and not a technical rule of procedure enshrining old or new niceties regarding ‘causes of action’—when they are born, whether they proliferate, and when they die.”); *see also Etchegoinberry v. United States*, 114 Fed. Cl. 437, 498 (2013) (“This court has, likewise, underscored the Supreme Court’s mandate in [*Dickinson*] that taking claims be enforced with an eye towards fairness.”) (internal citation omitted). Instead, the Court held, in cases of gradual taking, accrual of a claim for the purposes of triggering the statute of limitations is delayed until the taking has “stabilized” such that the “consequences of the inundation have so manifested themselves that a final account may be struck.” *Id.* at 749.

The Supreme Court later clarified the “expressly limited holding” of *Dickinson* in *United States v. Dow*, stating: “the statute of limitations did not bar an action under the Tucker Act for a taking by flooding when it was uncertain at what stage in the flooding operation the land had become appropriated for a public use.” 357 U.S. 17, 27 (1958). In *Dow*, the Court was

presented with the issue of whether the taking occurred at the time of filing of a declaration of taking or when the government took possession. *Id.* at 24. In holding a taking occurs at the time the government takes possession, the Court explained “[b]ecause of the uncertainty when, if ever, a declaration would be filed after the Government’s entry, manipulations might be encouraged which could operate to the disadvantage of either the landowner or the United States.” *Id.* at 25. Distinguishing the case from *Dickinson*, the Court explained “there is no dispute over the fact that the United States appropriated Parcel 1 on the date it entered into physical possession under order of the District Court,” as compared to *Dickinson*, where “it was uncertain at what stage in the flooding operation the land had become appropriated to public use.” *Id.* at 27; *see also Etchegoinberry*, 114 Fed. Cl. at 498 (“[D]efendant’s inability to pinpoint a single accrual date, and defendant’s reliance on an entire decade as the time when plaintiff allegedly should have known that its claim had accrued, supports a conclusion that landowners . . . were justifiably uncertain about the permanent nature of the damage to their lands.”).

The point at which a taking becomes “sufficiently certain to give rise to a claim for compensation varies in each case.” *Cooper v. United States*, 827 F.2d 762, 764 (Fed. Cir. 1987). If an alleged takings claim stabilized more than six years prior to plaintiff filing suit, recovery for any damage from the taking is barred under the statute of limitations rather than only the damage which occurred more than six years prior. *Boling*, 220 F.3d at 1373 (rejecting plaintiffs’ assertion the six-year statute of limitations bar as applied to a takings claim “should be limited to exclude only damage that occurred greater than six years prior to the filing of the claim”).

B. Justifiable Uncertainty Doctrine

The Federal Circuit applies the holdings of *Dickerson* and *Dow* to toll the statute of limitations when government promises or actions to mitigate the damages stemming from the takings claim create adequate uncertainty to delay the filing of landowner claims. In *Applegate*, the Federal Circuit applied the statute of limitations bar to a gradual taking of land from “landowners [who] remain justifiably uncertain about the permanency of the erosion and taking.” 25 F.3d at 1583. In *Applegate*, the Corps constructed a deep-water harbor. *Id.* at 1580. “To maintain the channel’s entrance, the Corps constructed two jetties” on each side of the harbor, which interrupted the “natural southerly littoral flow of sand [which] replenished 41 miles of white sandy beaches” and caused “the shoreline north of the harbor to accrete and the shoreline to the south to recede.” *Id.* In 1962, “the River and Harbor Act . . . authorized over five million dollars for the construction of a sand transfer plant . . . [and] the Senate Public Works Committee and the Florida Department of Natural Resources approved a Corps plan to restore the beaches in 1968.” *Id.* The plans were delayed, and as of the date of the Federal Circuit’s opinion, the plant was not yet built. *Id.*

In 1992, “landowners filed a complaint in the Court of Federal Claims asking for damages under the Fifth Amendment and for an injunctive order requiring the Corps to build the transfer plant.” *Id.* at 1581. The United States moved to dismiss, alleging the Court of Federal Claims lacked jurisdiction to provide injunctive relief and alleging the motion was untimely. *Id.* This court granted the government’s motion, and the landowners appealed the statute of limitations bar. *Id.* On appeal, the Federal Circuit addressed the issue of how the stabilization doctrine applied to the government’s promised mitigation efforts to restore plaintiffs’ land. *Id.* at

1582. The court explained, “[t]he gradual character of the natural erosion process set in motion by the Corps, compounded by the Government’s promises of a sand transfer plant, have indeed made accrual of the landowners claim uncertain.” *Id.* at 1582. “[T]he almost imperceptible physical process has delayed detection of the full extent of destruction—a necessary precondition of striking a final account.” *Id.* The court held, “due to both the very gradual nature of this particular physical process and the Corps’ promises to restore the littoral flow of sand, this taking situation had not stabilized by 1986—six years before the landowners filed suit . . . [and] [t]he statute of limitations does not bar this action.” *Id.* at 1583; *see also Prakhin v. United States*, 131 Fed. Cl. 706, 714 (2017) (holding the government’s repeated promises to mitigate conditions rendered the permanency of the taking uncertain and plaintiff is not barred by the six-year limitations period). Therefore, “precisely because of the Government’s promises to build a sand transfer plant, the landowners remain[ed] *justifiably uncertain* about the permanency of the erosion and the taking,” and the statute of limitations did not bar their claims. *Applegate*, 25 F.3d at 1583 (emphasis added). This justifiable uncertainty on the part of the landowners in turn tolled the statute of limitations as to plaintiffs’ takings claims. *Id.* at 1584.

The Federal Circuit further examined the effect of justifiable uncertainty on the statute of limitations for takings claims in *Banks v. United States*. 314 F.3d 1304 (Fed. Cir. 2003). In *Banks*, the court explains the “Corps completed the construction of the St. Joseph harbor jetties in 1903[,] [and] [b]etween 1950 and 1989, the Corps installed sandtight steel sheet piling to the jetties.” *Id.* at 1306. Installation of the harbor jetties and steel sheet pilings “significantly increased the annual rate of shoreline erosion” along the eastern shoreline of Lake Michigan. *Id.* The Corps attempted to mitigate the damages for more “than fifteen years of beach nourishment with fine sand.” *Id.* at 1307. “When the Corps determined that fine sand did not fulfill the role of coarser sediment . . . the Corps deposited coarse material on the . . . shoreline on five different occasions between 1986 and 1993 . . . [and] [t]he mitigation efforts were expanded to placing barge-loads of large rocks into the lake in 1995.” *Id.* Plaintiffs filed suit in the Court of Federal Claims alleging takings claims after a “2000 FY–1999 Annual Report . . . emphasized the irreversible and potentially permanent nature of the erosion.” *Id.* The government moved to dismiss for lack of jurisdiction due to the timeliness of plaintiffs’ claims. *Id.* This court granted the government’s motion, finding the claims “arose no later than 1989—the date the Corps completed the steel sheet piling of the jetties.” *Id.*

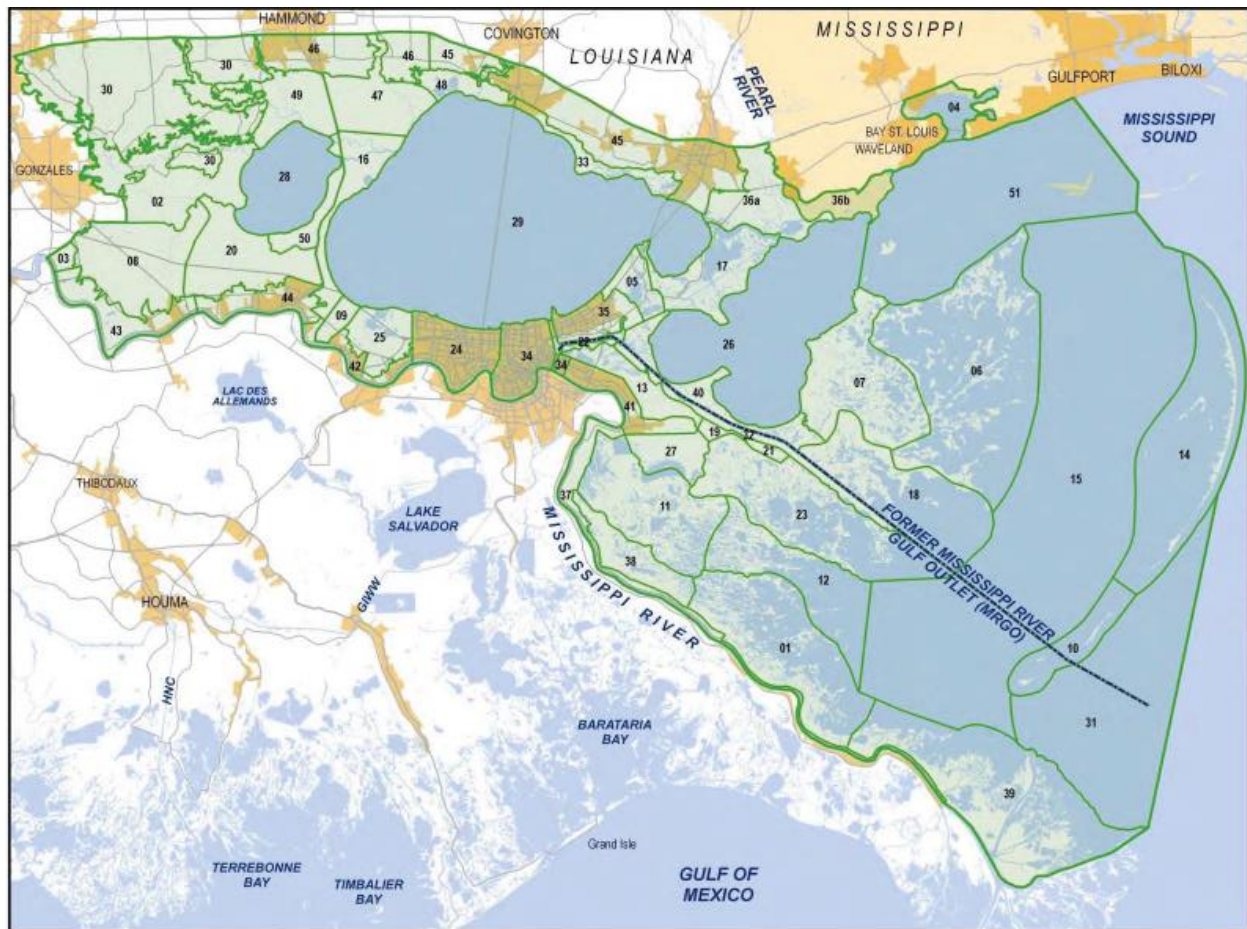
On appeal, the Federal Circuit in *Banks* noted the “question is whether the ‘predictability [and permanence] of the extent of damage to the [plaintiffs’] land’ was made justifiably uncertain by the Corps’ mitigation efforts.” *Id.* at 1309 (citing *Applegate*, 25 F.3d at 1583). Applying this standard, the court held “even greater uncertainty was created by the Corps’ mitigation plan . . . [because] the Corps in this case actually performed its mitigation activities for several years before the filing of this action.” *Id.* at 1309–10. The Federal Circuit made clear justifiable uncertainty does not require “the presence of a legally binding promise or duty or a matter requiring a congressional appropriation.” *Id.* at 1309. “Because the Court of Federal Claims misapplied the standard for claim accrual under *Applegate*, and because plaintiffs remained uncertain as to the permanent nature of the taking until the Corps reported that the erosion was permanent and irreversible,” the Federal Circuit “conclude[d] that the claims were not time barred.” *Id.* at 1310.

In *Boling v. United States*, the Federal Circuit applied the Supreme Court's limitation of *Dickinson* as expressed in *Dow* to eroded lands along a coastal waterway. 220 F.3d at 1370–81. The property owners in *Boling* brought suit alleging takings claims from erosion caused by a government-dredged channel. *Id.* at 1368–69. The Court of Federal Claims dismissed some of the landowners' claims as time barred, holding "a takings claim accrued once any portion of the parcel at issue had suffered erosion damage." *Id.* at 1369. On appeal, the Federal Circuit applied the stabilization doctrine, explaining "stabilization . . . in *Dickinson* is not deferred until the progressive environmental damage stops, but occurs when the environmental forces have *substantially and permanently invaded the private property* such that the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable." *Id.* at 1371 (emphasis added). Plaintiffs in *Boling* sought in the alternative to extend the time for filing their claims by relying on the doctrine of justifiable uncertainty, arguing authorized government plans to protect their property, which the government later rescinded, caused them to be justifiably uncertain about the extent of their taking. *Id.* at 1372. The Federal Circuit rejected this argument and found plaintiffs were not aware of the government's alleged mitigation plans until after filing suit, and the Corps denied a previous request for erosion protection. *Id.* The Federal Circuit therefore remanded the case to the Court of Federal Claims to make factual determinations in the first instance about when "the permanent nature of the taking was evident such that a land owner should have known the land suffered erosion," because "[g]iven the realities of the terrain and the difficulty of determining the exact boundary of the easement, it was virtually impossible for the landowner to discern the land had been taken." *Id.* at 1372–73.

To fall within the doctrine the Federal Circuit expressed in *Applegate*, *Banks*, and *Boling*, mitigation efforts must make landowners "justifiably uncertain" about the predictability and permanence of the damage caused by the erosion. In cases where no mitigation efforts are committed to or undertaken, there can be no justifiable uncertainty. *See Mildenberger v. United States*, 643 F.3d 938, 947 (Fed. Cir. 2011). In *Mildenberger*, landowners sued the United States in the Court of Federal Claims "seeking compensation for the alleged taking of their riparian and upland property rights" stemming from government discharges of polluted water from a lake. *Id.* at 941. The government filed a motion to dismiss plaintiffs' claims, arguing they were barred under the statute of limitations, and this court granted the government's motion to dismiss under the doctrines of stabilization and justifiable uncertainty. *Id.* On appeal, the Federal Circuit explained the release of polluted water had occurred "for almost eighty years and the environmental effects have been evident since the 1950.'" *Id.* at 946. Further, in the "1990's, some Claimants formed the St. Lucie Initiative, Inc. to restore the health and productivity" of the river and produced a newsletter in 1996 "summarizing the history of the harm." *Id.* The Federal Circuit therefore held the "environmental damage was foreseeable and manifested prior" to 2000. *Id.* Addressing the mitigation doctrine in *Applegate* and *Banks*, the Federal Circuit stated "[t]here is no justifiable uncertainty due to the Corps' promises before the 1990s because the Corps neither undertook nor committed itself to any mitigation activities." *Id.* at 947. An internal Corps memorandum addressing "one official's views regarding a possible method of addressing the Corps' public relations problem" and the "Corps' consideration of potential projects to improve management of the waterways" were not, by themselves, sufficient to commit the Corps to any mitigation activities. *Id.* at 947–48. Plaintiffs' claims had therefore stabilized more than six years before plaintiffs brought suit, barring them under the statute of limitations. *Id.*

VI. Analysis of Category One – Central Wetlands

The Central Wetlands corresponds to geographical “Subunit 13” of Exhibit 1 contained in the 2012 Mississippi River Gulf Outlet (MRGO) Ecosystem Restoration Plan, Final Feasibility Report. Gov. Mot. for Summ. J., Ex. 35 (U.S. Army Corps of Engineers, Mississippi River Gulf Outlet (MRGO) Ecosystem Restoration Plan: Final Feasibility Report (June 2012)) (“2012 Feasibility Report”) at 2-58.



Subunit 13 includes the Livaudais,² Vincent Marshlands,³ Borgnemouth,⁴ and Lake Eugenie properties.⁵ See Corrected Joint Status Report, ECF No. 154 (“JSR”). The Central Wetlands “is approximately 30,000 acres and is bordered on the west and south by the populated settlements of Lower Ninth Ward, Chalmette, Meraux, Violet, and St. Bernard.” Gov. Mot. for Summ. J., Ex. 7at 1 (Land and Forest Area Changes in the Vicinity of the Mississippi River Gulf Outlet; Central Wetlands Region, 1935-2010). “Physically, the [Central Wetlands] is bounded by the MRGO on the east, the Gulf Intracoastal Waterway (GIWW) on the north, the back flood protection levees of the Mississippi River on the west, and the back flood protection levees of the St. Bernard Ridge on the south.” *Id.* The Central Wetlands is distinct from the MRGO Spoil Bank, subunit 32 on the 2012 Feasibility Report and Category 3 of the Court’s Analysis, which separates the Central Wetlands from the MRGO channel itself. See *infra*.

A. Stabilization Doctrine

Plaintiffs’ alleged takings theory in the Central Wetlands is premised on saltwater intrusion permeating from the MRGO, rather than any direct erosion on the banks of the MRGO:

[S]altwater intrusion kills the natural vegetation of the marsh and the roots of these dead plants can no longer hold the soil together along the MRGO channel banks. . . . This process has caused erosion of plaintiffs’ lands.

Am. Compl. at ¶ 31. Application of the stabilization doctrine requires the Court to first determine when erosion made such “substantial encroachment” to make plaintiffs aware of the permanency of the alleged taking. *Boling v. United States*, 220 F.3d 1365, 1372 (Fed. Cir. 2000). In considering when a landowner should be aware of “substantial encroachment,” the Court is to consider “the uncertainties of the terrain, the difficulty in determining the location of the government’s easement, and the irregular process of erosion.” *Id.* at 1373.

² The Livaudais properties “consist of three unconnected parcels of land in the northwestern corner of the MRGO,” Parcel A, Parcel B, and Parcel C. 2017 Mendelssohn Report at 36. “Parcel A, the northwesterly parcel, is a narrow but long 109 ac. rectangle with organic solid of the Lafitte soil series, typical of brackish marshes, within the marsh proper, and mineral dredged soils . . . in the MRGO dredge habitat . . . and [is] contiguous with the Jackson Protection Levee.” *Id.* at 36–37. “Parcel B, . . . [is] adjacent to the Mississippi River levee fastlands, is much wider than Parcel A, but shorter and consists of 312 ac. of mineral Barbary clays.” “Parcel C, . . . is the longest of the parcels, but narrow, and consists of 386 ac. of both organic soils . . . and mineral soils.” *Id.*

³ The Vincent property “covers about 6,800 acres in Orleans and St. Bernard Parishes . . . [where] the southern 40 percent of the property is located in the Central Wetlands.” Gov. Mot. for Summ. Judgment Ex. 37, ECF No. 99 at 3 (The Kemp Expert Report).

⁴ “The property of Borgnemouth Realty Company consists of two contiguous sections,” the Southeast and Northwest sections. 2017 Mendelssohn Report at 36. The Borgnemouth properties are in the Central Wetlands “that extend from the Mississippi River Levee in a northeast direction to Lake Borgne,” with portions of each property extending across the MRGO to the east. *Id.* at 30. “The Borgnemouth property, which includes a major portion of Proctor Point . . . [and] the soils of the Borgnemouth brackish and salt marshes are primarily organic . . . consisting of Clovelly and Lafitte muck.” *Id.*

⁵ Lake Eugenie, which has two separate property areas, the East and West, has a 240-acre area in the west located in the central wetlands, Eugenie West. *Id.* at 16. “The majority of the Lake Eugenie Land & Development . . . property is located along the outer fringe remnants of the St. Bernard delta, often referred to as the Biloxi marshes,” or Eugenie East. *Id.* Category One thus only includes Eugenie West.

MRGO construction ended in 1968, and the environmental effects of the MRGO on the surrounding marshlands began to occur soon after.⁶ *See* Gov. Mot. for Summ. J., Ex. 19 at 86–88 (Environmental Baseline Study for the St. Bernard Parish Police Jury). A 1982 study found between 1955 and 1978, the Central Wetlands had lost all fresh-to-intermediate marsh, more than doubled the amount of brackish marsh, and introduced a significant amount of saline marsh.⁷ A further study published in 1982 described the environmental impact of saltwater intrusion and erosion as contributing to the loss of marshland in the immediate area. Gov. Mot. for Summ. J., Ex. 18 at 15–30 (St. Bernard Parish: A Study in Wetland Management). By 1984, the Corps released a report which noted the marshland around the St. Bernard Parish was disappearing at a rate of approximately 21,900 acres per year. *See* 1984 Initial Evaluation Study at 60–61. In 1986, Congress formally recognized problems surrounding the destruction of marshland by passing WRDA, establishing the Office of Environmental Policy to:

[D]evelop, and monitor compliance with, guidelines for the consideration of environmental quality in formulation and planning of water resources projects carried out by the Secretary, the preparation and coordination of environmental impact statements for such projects, and the coordination with Federal, State, and local agencies of environmental aspects of such projects and regulatory responsibilities of the Secretary.

33 U.S.C. § 2294.

In 1988, the Corps released a reconnaissance report which placed the previous reports of erosion and the MRGO into perspective: “Erosion and disintegration of the banks of the MRGO has created many additional routes for saltwater to intrude into formerly less saline interior marshes. Consequently, salinity in the marshes has increased significantly in the last 20 years.” 1988 Reconnaissance Report at 27. The 1988 Reconnaissance Report found the increased salinity levels contributed to the reduction in “the amount of three-cornered grass” growing in the local marshlands, as well as the reduction of wildlife populations and vegetation in the marshland. *Id.* The Report thus concluded “[s]altwater intrusion . . . contributes significantly to marsh loss in the study area.” *Id.* Consistent with this date, the government points to 1988 and the release of the Corps Reconnaissance Report as the date plaintiffs’ claims “stabilized,” starting the statute of limitations. Gov. Mot. for Summ. J. at 36–37.

Before constructing the MRGO, “[t]he United States obtained [from plaintiffs] federal navigational servitudes in the designed footprint of the channel, and also acquired rights of entry for construction and spoil disposal that extended 1500 feet from the channel’s original centerline.” Gov. Mot. for Summ. J. at 9. The marshland in close proximity to the channel creates a difficult question of fact as to whether any applicable government easement or servitude extends to takings occurring on those properties, particularly in attempting to

⁶ “Greater than 12,000 acres of the swamps in the CWU, South Lake Borgne and other units were killed shortly after the opening of the MRGO” Day Report at 19. “Levels of salinity in the Central Wetlands Unit . . . and adjacent areas . . . before the opening of the MRGO were generally between fresh and 4 ppt. After the MRGO was opened, salinities in the Central Wetlands Unit . . . were consistently higher than 5 ppt and often higher than 10 ppt.” *Id.* at 41–42.

⁷ During this period, the Central Wetlands lost all 5,678 acres of fresh-to-intermediate marsh, increased the number of acres of brackish marsh from 3,721 to 7,425, and added 1,198 acres of saline marsh. *See* Day Report at 48.

determine whether saltwater permeated beyond the bounds of the easement. As discussed in the Day Report, no two hydrological surveys of the area “necessarily exactly match those estimated by a different team” because “[d]iscrepancies may arise from interpretation techniques, sampling resolution, or differences in environmental factors.” Gov. Mot. for Summ. J., Ex. 8 (“Day Report”) at 37. Based on difficulties stemming from “the realities of the terrain and the difficulty in determining the exact boundary of the easement . . . requiring the plaintiffs to sue immediately upon initial encroachment . . . is too rigid of an application of the stabilization doctrine.” *Boling*, 220 F.3d at 1372–73. As the Court observed during its site visit and photographic exhibits in the record, the terrain of plaintiffs’ properties consists of vast amounts of irregular wetlands and marshes. *See, e.g.*, Gov. Mot. for Summ. J., Ex. 11 at 2 (“Britsch Report”). This is especially the case where plaintiffs’ claim saltwater intrusion caused vegetation loss and in turn erosion, an occurrence not bound by specific geographical boundaries. *See Boling*, 220 F.3d 1373 (directing courts examining the stabilization doctrine to consider “the uncertainties of the terrain, the difficulty in determining the location of the government’s easement, and the irregular process of erosion”). These geographical features make it difficult to determine exact boundary lines and specific points where saltwater intrusion first permeated into properties and vegetation loss which may have led to the alleged land taking.

Uncertainties of terrain and the irregularity of erosion left plaintiffs unable to immediately determine the permanency of any alleged taking following completion of the MRGO in 1968. As of at least 1982, Congress was still commissioning reports to determine the extent of erosion occurring in the areas around the MRGO. *See* 1988 Reconnaissance Report at 2. Plaintiffs’ claims may have stabilized as early as 1978, however, when local interests began the Violet Siphon program to provide freshwater diversions to Category One. *See Fallini v. United States*, 56 F.3d 1378, 1382 (Fed. Cir. 1995) (noting “[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the ‘permanent nature’ of the taking was evident”). The Violet Siphon program was a freshwater diversion system with the “objective of restoring the project area to a fresher state through mimicking the former behavior of the Mississippi River by siphoning fresh water into the marsh.” Pls.’ Mot. for Partial Summ. J., Ex. 46 at 1-14 (U.S. Army Corp. of Engineers “Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project”). Planning the construction of the siphon may indicate local landowners were aware of the “substantial encroachment” of saltwater onto their property and affirmatively sought to counteract this encroachment with freshwater diversions to regain marshland. *See Boling*, 220 F.3d at 1372 (the stabilization doctrine requires the Court to determine when there was sufficient “substantial encroachment” onto plaintiffs’ land to make plaintiffs aware of the alleged taking).

Plaintiffs argue the “gradual physical process that have eroded and continue to erode plaintiffs’ properties” either “to this date have not yet stabilized” or, if the claims have stabilized, “stabilization did not occur until July 9, 2009, when the MRGO was finally physically closed” Pls.’ Mot. for Partial Summ. J., at 2. At the time the 1988 Reconnaissance Report was released, however, landowners were not only made aware of the negative effects of saltwater intrusion by the Corps itself, but also were visually aware—or should have been visually aware—a taking was occurring. Plaintiffs’ claims in Category One are based on the theory saltwater intrusion killed the natural vegetation in the area, and erosion occurred when the roots

of these dead plants could no longer hold the soil in place. Am. Compl. at ¶ 31. The 1988 Reconnaissance Report explicitly highlights the increasing salinity of the marshes due to saltwater intrusion and corresponding loss of marshland, noting “salinity in the marshes has increased significantly in the last 20 years” which in turn “greatly reduced” marshland vegetation less tolerant to high salinity conditions. Pls.’ Mot. for Partial Summ. J., Ex. 7 at 27 (1988 Reconnaissance Report). By 1988, the increased salinity described in the 1988 Reconnaissance Report would likely have caused the same alleged physical ramifications as forms the basis for plaintiffs’ claims for erosion-based takings in Category One, namely the death of various plant life and conversion of the marshland from lower to higher-salinity marshes. A 1999 study further reinforces the permanency of the alleged taking around 1988, based on reports of hydrological effects occurring at the time.⁸ Stabilization does not require “the progressive environmental damage [to] stop[],” and the publishing of the 1988 Reconnaissance Report both publicly represented the government’s recognition of the issue of erosion caused by the MRGO and documented physical evidence of the substantial encroachment of saltwater onto plaintiffs’ land and the corresponding effects of this encroachment. *Boling*, 220 F.3d at 1371. By 1988, the saltwater plaintiffs attribute as the cause of erosion on their land sufficiently “invaded the private property such that the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable.” *Id.*

In summary, for Category One, the evidence in the record indicates “environmental forces . . . substantially and permanently invaded the private property” sufficient for the stabilization doctrine to apply at some point between 1978, the year the Violet Siphon project was initiated, and 1988, the year the 1988 Reconnaissance Report was published. *Boling*, 220 F.3d at 1371. Viewing the evidence in the light most favorable to plaintiffs, however, stabilization of plaintiffs’ claims occurred in 1988 following the 1988 Reconnaissance Report and the visible physical changes occurring on the property. On the other hand, viewing the evidence in the light most favorable to the government, stabilization of plaintiffs’ claims occurred when local interests recognized the potential permanency of erosion in Category One and initiated the Violet Siphon program as an attempt to counteract the erosion. *See Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587–88 (1986) (noting courts must draw all inferences at the summary judgment stage “in the light most favorable to the party opposing the motion”). Therefore, for the purpose of the government’s motion for summary judgment, absent justifiable uncertainty tolling the statute of limitations, the six-year statute of limitations period for plaintiffs’ claims in Category One expired in 1994. For the purpose of plaintiffs’ motion for summary judgment, absent justifiable uncertainty tolling the statute of limitations, the six-year statute of limitations period for plaintiffs’ claims in Category One expired in 1984. *See Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

B. Justifiable Uncertainty

For landowners to be “justifiably uncertain” as to the permanency of the alleged taking, “the question is whether the ‘predictability [and permanence] of the extent of damage to the

⁸ Between 1956 and 1978, the amount of fresh-to-intermediate marsh decreased from 11,620 acres to 1,520 acres, while the amount of brackish marsh increased from 13,490 acres to 21,710 acres. From 1978 to 1990, however, the amount of fresh-to-intermediate marsh decreased only from 1,520 acres to 620 acres, and the amount of brackish marsh actually decreased from 21,710 acres to 19,710 acres. *See Day Report* at 53.

[plaintiffs'] land' was made justifiably uncertain by the Corps' mitigation efforts." *Banks v. United States*, 314 F.3d 1304, 1309 (Fed. Cir. 2003) (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it were implemented after the date on which the Court deems plaintiffs alleged taking to have "stabilized." *Banks*, 314 F.3d at 1309. To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings in Category One and therefore tolled the statute of limitations, the Court twice ordered plaintiffs to provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category One, and the government had an opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All projects plaintiffs provided as applicable to the justifiable uncertainty analysis are considered in the Court's analysis.⁹

As early as 1979, the local interests began taking steps to mitigate damage to marshlands in the Central Wetlands by building the Violet Siphon to revitalize the area through delivery of fresh water.¹⁰ *See* Day Report at 29. The Violet Siphon program was initiated in 1978, the siphon was built by the St. Bernard Parish in 1979, and it initially operated until 1983. *Id.* The Violet Siphon "was again brought into operation [by the Louisiana Department of Natural Resources] . . . beginning in 1990." *Id.* The Violet Siphon "was operated for four years in the mid-1990s . . . and was not maintained subsequent to 1997" Gov. Mot. Summ. J., Ex. 16 at 42 (Assessment of Wetland Habitat Change on Litigated Properties Adjacent to The Mississippi River Gulf Outlet (MRGO)) ("2017 Mendelssohn Report"). And in 2003, repairs were made to rehabilitate the Violet [S]iphon . . . and the siphon was reopened shortly after the repairs were made.¹¹ *Id.* The Violet Siphon "was intended to freshen 17,980 acres of cypress swamp and marsh near the outfall into the Central Wetlands." *Id.*¹² Plaintiffs argue "[t]he Violet Siphons

⁹ Plaintiffs' 15 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category One: The Louisiana Coastal Wetlands Restoration of 1993; the Mississippi River Gulf Outlet Ecosystem Restoration Plan's Final Feasibility Report; and the beneficial use of dredged materials. *See* Pls.' Paper at 1–2. Plaintiffs' 30 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category One: the "Violet Siphon" freshwater diversion project; the Coastal Wetlands Planning, Protection, and Restoration Act and related wetlands construction projects proposed, planned, or funded under the Act; the establishment of the Coastal Wetlands Planning, Protection, and Restoration Act Task Force's Coast 2050 Report; the Water Resources Development Act and related wetlands construction projects proposed, planned, or funded under the Act, the Mississippi River-Gulf Outlet Ecosystem Restoration Plan and related wetlands construction projects proposed, planned, or funded under the plan; and the Mendelssohn Report. *See* Pls.' Supp. Paper at 2–15.

¹⁰ "The Violet Siphons were constructed with the objective of restoring the project area to a fresher state through mimicking the former behavior of the Mississippi River by siphoning fresh water into the marsh. The siphons were operational for only four years due primarily to public opposition to large amounts of sediment deposited in [the] Violet Canal, interfering with navigation." Pls.' Mot. for Partial Summ. J., Ex. 46 at 1–14 (U.S. Army Corp. of Engineers "Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project").

¹¹ The Violet Siphon was put back into operation after the Louisiana Department of Natural Resources completed the Violet Siphon Diversion project, which "return[ed] into operation the existing siphon, and [] enlarge[d] the size of the diversion so that more sediment and freshwater are available to offset marsh subsidence and saltwater intrusion." Pls.' Supp. Paper at 4.

¹² As stated in the *Mendelssohn Report*, when discussing saltwater intrusion during 2001 to 2013, "the salt marsh in the southern portion of [the Borgne Property] began to retreat in 2009 in the direction from which it had expanded, completely disappearing in 2007 and 2013 It is plausible that freshwater discharge from the Violet

were constructed with the objective of restoring the project area to a fresher state” and provided sediment and freshwater “to offset marsh subsidence and saltwater intrusion.” *See* Pls.’ Supp. Paper at 3–4 (citations omitted). The government argues in response, “[u]nlike the projects in *Applegate* and *Banks*,” the Violet Siphon “was not conceived to ‘mitigate’ the effects of the Corps’ Mississippi River Gulf Outlet,” and “[p]laintiffs offer no evidence that the locally-built Violet Siphon had any impact on freshening the vegetation or remediating land loss on their properties between 1979 and 1983.”¹³ Gov.’s Resp. to Pls.’ Supp. Paper at 3–4.

A landowner need not receive “a legally binding promise or duty or a matter requiring a congressional appropriation” to be justifiably uncertain as to the permanency of an alleged taking. *Banks*, 314 F.3d at 1309. Rather, the “mere promise” of mitigation efforts, “held out by the Corps and repeatedly renewed but never implemented, indicate[s] that ‘the landowners did not know when or if their land would be permanently destroyed.’” *Id.* (quoting *Applegate*, 25 F.3d at 1583). “[P]roposals to correct the damage” done to the land put forward by the government can “further complicate[] ascertaining the extent and nature of the consequences” of the physical taking enough to trigger the doctrine of justifiable uncertainty. *Applegate*, 25 F.3d at 1584. Throughout the early 1990s, the Corps began to move forward with additional plans, task forces, and completed projects directed to the goal of “no overall net loss of the Nation’s remaining wetlands base” 1990 WRDA at § 307(a).¹⁴ By the late 1990s, and stretching

Canal played a role in the freshening of the southern portion of [the Borgnemouth Property] from 2001 through 2013.” 2017 Mendelsohn Report at 35.

¹³ The government argues justifiable uncertainty requires “objectively reasonable beliefs that the United States would completely reverse and remediate government-caused erosion” and, because the Violet Siphon was “first built ‘by local interests,’” and “not a federal project,” the Court should not consider the Violet Siphon in any justifiable uncertainty analysis before it “was rebuilt as a State project in 1992” Gov.’s Response to Pls.’ Supp. Paper at 2–4. As the Court assumes the stabilization date for the purposes of the government’s motion for summary judgment is 1988, it need not decide at this time whether the “first operation” of the Violet Siphon constituted justifiable uncertainty. The government admits the Violet Siphon was rebuilt in 1992, and therefore its operation as a “state project” began within the statute of limitations period running from 1988. To the extent the original operation of the Violet Siphon by “local interests” affects whether landowners were justifiably uncertain as to the permanency of the alleged takings in Category One, projects to restore damaged land conducted by entities besides the government may still leave a landowner justifiably uncertain as to the permanency of any alleged government taking. The government’s promise in *Applegate* to restore the littoral flow was specifically what “destroyed any predictability of the extent of damage to the land,” but the ultimate question the Federal Circuit emphasized as determining whether landowners were justifiably uncertain was whether the landowners knew “when or if their land would be permanently destroyed.” *Applegate*, 25 F.3d at 1582–83; *see also Banks*, 314 F.3d at 1309 (“This court has noted that the ‘critical element that delayed stabilization in *Applegate* [is] the justifiable uncertainty about the permanency of the taking.’”) (quoting *Boling*, 220 F.3d at 1372) (citations omitted). Further, at this stage the record is not clear as to the source of funding for the initial operation of the Violet Siphon or whether the initial operation was supported by federal money.

¹⁴ In 1990, Congress passed the Water Resource Development Act of 1990. *See* the 1990 WRDA. Additional legislation in 1990 included the Coastal Wetlands Planning, Protection and Restoration Act directed the Corps to establish a comprehensive plan to restore Louisiana wetlands and called for the development of annual lists of “priority projects,” which would “provide for the long-term conservation of [Louisiana’s] wetlands” Pls.’ Mot. for Partial Summ., Ex. 42 at 3–4 (1994 MRGO Bank Erosion Reconnaissance Report). In 1993, a task force submitted a plan to restore and prevent further loss in Louisiana wetlands by “increas[ing] sediment and freshwater input into coastal estuaries” so as to “restart the natural processes of land building and maintenance” Pls.’ Mot. for Partial Summ. J., Ex. 41 at 9 (1993 Louisiana Coastal Wetlands Restoration Plan). The task force behind the 1993 Louisiana Coastal Wetlands Restoration Plan developed a “comprehensive approach to restore and prevent the loss of coastal wetlands in Louisiana” by using hydrologic restoration, shoreline protection, marsh creation with dredged materials, and marsh management. *Id.* at 9, 24.

into the early 2000s, the Corps continued planning and implementing additional projects¹⁵ to further mitigate any alleged negative effects to the marshlands.¹⁶ Following Hurricane Katrina in 2005, additional projects were contemplated and implemented which effected the marshland areas in the Central Wetlands.¹⁷

The marshlands of the Central Wetlands region experienced significant fluctuations in salinity classifications during the time period overlapping with the various projects performed and proposed by the Corps.¹⁸ Between 1988 and 1997, certain areas of marshland cycled

¹⁵ In 1994, the Corps prepared a bank erosion reconnaissance report, which studied projects approved in the 1991, 1992, and 1993 reports, including the “Violet Freshwater Distribution project” which aimed to “increase the use of fresh water, nutrients, and sediments drawn from the Mississippi River from the existing Violet Siphon.” Pls.’ Mot. for Partial Summ. J., Ex. 42 at 4. This project was reauthorized under the 2007 WRDA. Pls.’ Mot. for Partial Summ. J., Ex. 46 at 1–14 (U.S. Army Corp. of Engineers “Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project”).

¹⁶ In 1999, under the 1996 WRDA, the Corps conducted three projects along the MRGO to create 76 acres of wetlands with materials dredged from the channel. Am. Compl. at ¶ 31. In the 2004 USCAE LCA Ecosystem Restoration study, the Corps warned that the “rate of wetland loss in the area is accelerating” and “[r]apid action is required to protect the integrity of the southern Lake Borgne shoreline and to prevent continued erosion of the MRGO channel banks from ocean going vessel wakes.” Pls.’ Mot. for Partial Summ. J., Ex. 45 at 31 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). The Corps proposed building 38 miles of rock breakwaters along the banks of the MRGO to prevent the merger of the MRGO and Lake Borgne, noting such construction “has been effectively used . . . to prevent bankline retreat and protect large areas of estuarine wetlands from further erosion and degradation.” *Id.* at 2. The rock breakwaters further “may also facilitate future wetland creation using dedicated dredging and/or beneficial use of dredged material” *Id.* at 32. Additionally, in 2004, the Corps presented in a PowerPoint demonstration the Breaux Act Projects, which detailed four projects at the preliminary engineering design (“PED”) phase and two projects constructed. Pls.’ Reply Br. Opp’n, Ex. 56 at 46–47 (U.S. Army Corps of Engineers, MRGO Studies). The PED projects included two shoreline protection projects along Lake Borgne and the MRGO with an estimated cost of \$45 million to benefit 495 acres of land, and the constructed projects included two hydrologic restoration projects in the same area which cost \$2.6 million and benefited 889 acres. *Id.*

¹⁷ In 2006, Congress mandated the Corps develop a comprehensive plan to de-authorize the MRGO, and in the 2007 WRDA, Congress authorized the closure of the MRGO. Pls.’ Mot. for Partial Summ. J., Ex. 51 at 1 (Mississippi River-Gulf Outlet Deep Draft De-authorization Study). The WRDA authorized and appropriated projects including: placing 23 miles of rock break along the north bank, adding 15 miles of rock break along the southern shore of Lake Borgne, and addressing the loss of 6,350 acres of marsh. Pls.’ Mot. for Partial Summ. J., Ex. 46 at 1-12 (U.S. Army Corp. of Engineers “Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project”). In June 2009, the USCAE prepared the Final Environmental Impact Statement for MRGO-Wetland Creation and Shoreline Protection Project, which proposed “construct[ing] shoreline protection features along the Lake Borgne shoreline and restore and nourish wetlands in the MRGO and Lake Borgne estuarine complex.” Pls.’ Mot. for Partial Summ. J., Ex. 46 at ES-1 (U.S. Army Corp. of Engineers “Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project”). The funding for these projects was envisioned to come from \$75,000,000 Congress appropriated “for the repair, construction or provision of measures or structures necessary to protect, restore or increase wetlands, to prevent saltwater intrusion or storm surge.” *Id.* at ES-2. In July 2009, the Corps officially closed the MRGO, and no non-federal sponsor came forward to begin the authorized restoration projects, delaying restoration efforts. *See* 2012 Feasibility Report at S-2. In June 2012, the Corps prepared the Mississippi River Gulf Outlet Ecosystem and Restoration Plan Final Feasibility Report with the purpose “to develop alternative plans to restore natural features and processes in the Lake Borgne ecosystem and areas affected by the former navigation channel.” *Id.* at S-6.

¹⁸ “In the Central Wetlands, there was no fresh marsh. Intermediate marsh has decreased significantly (2,814 acres) and brackish marsh had increased (14,628 acres). Swamp decrease significantly (1,817 acres) and occurred only where there was a dependable source of fresh water such as around pumping stations that introduced water from rainfall and treated municipal effluent.” Day Report at 45. “In the Central Wetlands Unit, from the 1950s to the

between classification as brackish marsh, intermediate marsh, and saline marsh.¹⁹ In other areas of the marshlands of the Central Wetlands, similar fluctuations in the levels of brackish and salt marshes occurred between 1968 and 2013.²⁰ An additional area of marshland in the Central Wetlands observed similar oscillation in the level of brackish marsh between 1968 and 2013.²¹ Lastly, a final area of marshland also experienced significant fluctuation in levels of brackish marsh between 1968 and 2013.²² Fluctuations in the salinity of the Category One marshlands are significant because plaintiffs' theory of takings is based on saltwater intrusion increasing the salinity of the marshland, which allegedly killed the natural vegetation of the marsh and led to erosion of soil no longer held in place by root systems. Am. Compl. at ¶ 31. A decrease in the salinity of Category One could indicate to landowners the Violet Siphon is both effectively providing sediment dispersals through freshwater diversions and is lowering the salinity of the surrounding marshlands enough to drastically slow the rate of erosion.²³ A landowner reading reports on the planned restoration of the marsh through freshwater diversion and observing the fluctuations in salinity could therefore reasonably assume the Corps projects are mitigating any negative effects of the MRGO to the wetlands. *Applegate*, 25 F.3d at 1584 (finding "[t]he Corps

2000s, there were decreases in fresh marsh (-11,120 acres) and swamp (-7,812 acres) There were increases in intermediate (2,814 acres) and brackish (1,175) marsh, open water (5,239 acres) and spoil (9,315) acres." *Id.* at 46.

¹⁹ "[H]abitat change was considerable between 1988 and 1997. Brackish marsh decreased from 61.5% of the property to 33% due primarily to conversion to saline marsh, which comprised 15% of the property. The increase in water habitat (32.5% of the property) appears to have resulted from both interior pond formation and from erosion along the MRGO. Intermediate marsh habitat comprised 7% of the property, most likely arising from the freshening effect of the violet siphon." 2018 Mendelssohn Report at 4. Yet just four years later, in 2001, "saline marsh had converted back to brackish marsh, covering 49% of the property, with little intermediate marsh (0.5%) and water comprising 39% of the property." *Id.*

²⁰ The level of brackish marsh steadily increased in Eugenie West by one acre from 1968 to 1978, from 1978 to 1988, and from 1988 to 1997. From 1997 on, however, the area of brackish marsh steadily fell by at least one acre from 1997 to 2001, from 2001 to 2007, and from 2007 to 2013. 2017 Mendelssohn Report at 52. For the Borgnemouth property, the level of brackish marsh steadily increased up until sometime between 1978 and 1988; whereupon a sharp drop in the acreage of brackish marsh was experienced until a point in time between 1997 and 2001. *Id.* at 54. At some point between 2001 and 2007, however, the level of brackish marsh again dropped and stayed at this lower level until the study concluded in 2013. *Id.* The acreage of salt marsh on the Borgnemouth property also underwent significant fluctuation. Following construction of the MRGO, all salt marsh disappeared sometime between 1978 and 1988. By 1988, however, a significant area of land (1,283 acres) became salt marsh. This level steadily dropped until ultimately reaching zero again by 2007, only to increase again by 2013 to more than 700 acres. *Id.*

²¹ The level of brackish marsh for the Livaudais properties steadily increased following construction of the MRGO until somewhere between 1978 and 1988. Thereafter, a decrease in the level of brackish marsh was observed until somewhere between 1997 and 2001, where a large spike of more than 400 acres of brackish marsh reappeared. Thereafter, the levels of brackish marsh began gradually decreasing. *See* 2017 Mendelssohn Report at 55.

²² In the Vincent Marshlands, the levels of brackish marsh steadily decreased from 1968 to 1997. From 1997 to 2001, however, the levels of brackish marsh increased by nearly 1,500 acres. From 2001 to 2013, the levels of brackish marsh began to fall again, though still remaining nearly 1,000 acres larger than their lowest recorded level in 1997. *See* 2018 Mendelssohn Report at 57.

²³ The first operation of the Violet Siphon was shut down because it was depositing sediment in the Violet Canal so effectively it was interfering with navigation along the canal. Pls' Mot. for Partial Summ. J. Ex. 46 at 1-14 (U.S. Army Corp. of Engineers "Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project"). A landowner could reasonably believe the continued operation of the Violet Siphon would result in additional sediment being deposited into Category One, counteracting the effects of erosion on the surrounding area.

further complicated ascertaining the extent and nature of the consequences of this process with proposals to correct the damage”).

The studies and project proposals on marshland restoration, combined with the previously completed projects in the marshlands of the Central Wetlands and the fluctuations in salinity of the Central Wetlands during the period in time the government completed restoration projects, demonstrate the government’s commitment to mitigation efforts. The actual and proposed mitigation activities affecting Category One may contribute to when “a land owner should have known the land suffered erosion,” because the government’s actual or proposed mitigation created “greater uncertainty . . . [when] the Corps in this case actually performed its mitigation activities.” *Boling*, 220 F.3d at 1373; *Banks* at 1309–10. A landowner could reasonably rely on previously completed projects in the marshlands, such as intermittent operation of the Violet Siphon, in addition to public reports and grants related to future projects, to provide redress for the accrued damage from erosion. In particular, the Violet Siphon acted to provide an outflow of fresh water into the marshlands of Category One “so that more sediment and freshwater are available to offset marsh subsidence and saltwater intrusion.” Pls.’ Supp. Paper at 4.

Although the completion of the MRGO had an immediate effect on the surrounding marshlands, the uncertainties of terrain, difficulties in determining the location of the government’s easement, and irregularity of the erosion meant plaintiffs’ claims did not stabilize immediately upon the channel’s opening but rather likely stabilized at some point between 1978 and 1988. Viewing the evidence in the light most favorable to plaintiffs, stabilization of plaintiffs’ takings claims in Category One occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. For the purposes of the cross-motions for summary judgment, the Court therefore concludes the evidence before it indicates stabilization occurred no later than 1988. The Violet Siphon, which was constructed in 1979 and was operated intermittently throughout the 1980s, 1990s, and 2000s, was specifically constructed with the objective of “restoring the project area to a fresher state through mimicking the former behavior of the Mississippi River by siphoning fresh water into the marsh.” Pls.’ Mot. for Partial Summ. J., Ex. 46 at 1-14 (U.S. Army Corp. of Engineers “Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project”). Furthermore, plaintiffs cite various planned and completed beneficial dredging and wetland creation projects running through 2009 or later. Reading the evidence of the government’s proposed and completed mitigation efforts in the light most favorable to plaintiffs, justifiable uncertainty may toll the statute of limitations on plaintiffs’ claims related to Category One. *Banks*, 314 F.3d at 1310.

VII. Analysis of Category Two – South Lake Borgne

South Lake Borgne corresponds to geographical “Subunit 40” of Exhibit 1 contained in the 2012 Feasibility Report. 2012 Feasibility Report at 2-58. Subunit 40 includes the

Livaudais,²⁴ Vincent Marshlands,²⁵ Borgnemouth,²⁶ Biloxi,²⁷ and Lake Eugenie properties.²⁸ *See* JSR at 1. “South Lake Borgne covers the MRGO/Lake Borgne Landbridge, the strip of marsh separating the MRGO from the [L]ake [Borgne].” 2012 Feasibility Report at 2-122, Figure 2-29. South Lake Borgne is located on the north side of the MRGO adjacent to the Central Wetlands. *Id.* There are thus two distinct types of land within Category Two: property situated on the banks of the channel and the remaining marshlands.

A. Channel Land Area

1. Stabilization Doctrine

For land situated on the channel itself, plaintiffs allege the following physical taking:

Because the soft soils on the sides of the original channel would not stand up at such a steep angle, and because of the maintenance . . . conducted by the Corps of Engineers, the soil began to slide or “slough-off” into the bottom of the channel. . . . [T]he erosion process has continued over the years up to this date, and as a result, the channel is now over 2,000 feet wide at the surface. . . . This erosion process will continue into the future unless additional and complete shore protection measures to prevent future erosion are immediately implemented

Am. Compl. ¶ 30.

The MRGO channel cut directly through South Lake Borgne, which was only open to Lake Borgne on its northern bank. In 1968, the MRGO’s initial surface width was 650 feet, with a bottom width of 500 feet. *See* Britsch Report at 41. Prior to construction of the MRGO, “[t]he United States obtained [from plaintiffs] federal navigational servitudes in the designed footprint of the channel, and also acquired rights of entry for construction and spoil disposal that extended 1500 feet from the channel’s original centerline.” Gov. Mot. for Summ. J. at 9.

Beginning in at least 1983 and ranging through the 1980s, the government conducted Environmental Assessments (“EAs”) related to “foreshore protection test sections” along the bank of the MRGO touching Category Two.²⁹ These EAs may have been a direct response by the government to the substantial changes to the width of the channel and issues related to

²⁴ For Livaudais, Parcel C extends across the MRGO into South Lake Borgne. *See* 2017 Mendelssohn Report at 36–37.

²⁵ The Vincent Marshlands property is one continuous piece of property extending across the MRGO into South Lake Borgne. 2018 Mendelssohn Report at 25.

²⁶ Both the Southeast and Northwest Borgnemouth properties extend across the MRGO into South Lake Borgne, with the Southeast property extending into proctor point. 2017 Mendelssohn Report at 56.

²⁷ Biloxi owns two separate property groups, Biloxi East and Biloxi West. “The majority of the [Biloxi East] property . . . is located to the west of Lake Eugenie Land & Development property, but still within the Biloxi marshes.” *Id.* at 23. Biloxi West is “a smaller section of land at Proctor Point.” *Id.* “The [Biloxi West] property-section is characterized by organic brackish marsh soils of the Lafitte and Clovelly series. The Lafitte muck has a thicker organic layer than the Clovelly muck.” *Id.* at 24.

²⁸ For Lake Eugenie, a portion of the Western property is in South Lake Borgne. *Id.* at 56.

²⁹ *See* Pls.’ Paper at 3 (listing EA #38 as signed 15 August 1983 and affecting land in Category Two).

erosion occurring along the banks, indicating the government was aware of all of the facts necessary to stabilize a takings claim. *See Fallini v. United States*, 56 F.3d 1378, 1382 (Fed. Cir. 1995) (noting “[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the ‘permanent nature’ of the taking was evident”). Consequently, it may also therefore indicate landowners along the channel should have similarly been aware by this point of the stabilization of their takings claim. *Id.* In 1988, the Corps published the 1988 Reconnaissance Report, which stated the MRGO “land cut has increased from [a top width of] 650 feet to an average of 1,500 feet” and “the unleveed reaches are retreating at varying rates from five to over 40 feet per year.” 1988 Reconnaissance Report at 26, 30. Thus, while the government originally received servitudes extending up to 1,500 feet from the centerline of the channel for construction and spoil disposal, the entirety of the area granted in the servitudes was now being utilized only for the channel itself. *Id.* By 1988 the average width of the channel therefore exceeded the original channel footprint by more than 230%. Stabilization does not require “the progressive environmental damage [to] stop[]”; this nearly 1,000-foot increase in the width of the channel constitutes a substantial and permanent invasion of “private property such that the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable.” *Boling v. United States*, 220 F.3d 1365, 1371 (Fed. Cir. 2000); *see also id.* at 1373 (holding “the takings claims accrued when the erosion has substantially encroached the parcels at issue and the damages were reasonably foreseeable”). Landowners’ claims would have therefore stabilized by at least the time the 1988 Reconnaissance Report was released.

The evidence available in the record related to bank erosion and the widening of the channel indicate there was “substantial and permanent” invasion of private property sufficient to trigger the stabilization doctrine at some point between 1983, when the government started issuing EAs potentially affecting the widening of the MRGO channel, and 1988, the year the 1988 Reconnaissance Report detailed the substantial widening of the channel. For the purpose of the government’s motion for summary judgment, by at least 1988 the dramatic growth of the channel and the release of the 1988 Reconnaissance Report put the landowners on adequate notice for a taking to accrue. Therefore, absent justifiable uncertainty tolling the statute of limitations, the six-year statute of limitations period for plaintiffs’ claims along the channel of Category Two expired in 1994. *See Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

2. Justifiable Uncertainty

For landowners to be “justifiably uncertain” as to the permanency of the alleged taking, the “question is whether the ‘predictability [and permanence] of the extent of damage to the [plaintiffs’] land’ was made justifiably uncertain by the Corps’ mitigation efforts.” *Banks v. United States*, 314 F.3d 1304, 1309 (Fed. Cir. 2003) (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it were implemented after the date on which the Court deems plaintiffs alleged the taking to have “stabilized.” *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings of land along the channel of Category Two and therefore tolled the statute of limitations, the Court twice ordered plaintiffs to

provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category Two, and the government had an opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All projects plaintiffs provided as applicable to the justifiable uncertainty analysis are considered in the Court's analysis.³⁰

From the period of 1988 to 2008, the Corps completed a series of projects constructing various forms of foreshore protections to address the environmental and physical impacts of the MRGO on property along the channel.³¹ These completed projects demonstrate the Corps' commitment to the actual implementation of mitigation efforts to restore plaintiffs' lands on or around the channel, and they create justifiable uncertainty with plaintiffs sufficient to toll the statute of limitations. *Banks*, 314 F.3d at 1309.

³⁰ Plaintiffs' 15 June supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Two: Completed foreshore test construction projects; the "USACE Louisiana Coast Area Land Loss and Marsh Creation Initial Evaluation Study" and proposals for beneficial use of dredged materials contained therein; various reports related to bank and marshland erosion; the Louisiana Coastal Wetlands Restoration Plan of 1993; proposed or completed channel bank stabilization projects; and other proposed or completed projects related to the beneficial use of dredged materials. *See* Pls.' Paper at 2–5. Plaintiffs' 30 June supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Two: Completed projects related to the "installation of foreshore protection and beneficial use of dredged material," "various" completed CWWPRA projects, and "several" foreshore construction or remediation projects proposed but not completed. *See* Pls.' Supp. Paper, at 30–31.

³¹ The 1988 Reconnaissance Report detailed "[f]oreshore protection along the north bank of the MR-GO . . . [was] completed." 1988 Reconnaissance Report at 14. In 1991, EA #152 detailed a completed project where "[t]he purpose of the project [was] to stabilize the north bank of the MRGO channel between Mile 50.5 and Mile 55.0 while protecting adjacent marsh from further erosion." Pls.' Mot. for Partial Summ. J., Ex. 18 at 2 (EA #152: Bank Stabilization, Miles 50.5 to 55). In 1993, the Corps prepared an Issue Paper addressing bank erosion along the MRGO stating: "Using FY 1992 Congressional aid funds in the amount of \$3.5 million, 3.5 miles of rock bank stabilization along the north bank of the channel have been constructed. Other measures to reduce erosion and restore marsh are being addressed in an ongoing reconnaissance study, Mississippi River-Gulf Outlet Bank Erosion, Louisiana, which is seeking the best plan, based on monetary and non-monetary benefits, to stabilize and restore the banks of the ship channel." Pls.' Mot. for Partial Summ. J., Ex. 11 at 1 (Issue Paper: Mississippi River-Gulf Outlet, LA- Bank Erosion). In 1996, EA #247 detailed a completed project where the purpose of the proposed action was to stabilize the left descending (north) bank of the MRGO channel, between Miles 55.0 and 56.1, while protecting adjacent marsh from further erosion. Pls.' Mot. for Partial Summ. J., Ex. 23 at EA-4 (EA #247: Bank Stabilization, Miles 55.0 to 56.1). In 1999, the Corps detailed in EA #288 the construction of a non-continuous rock bank along the north bank of the MRGO. *See* Pls.' Mot. for Partial Summ. J., Ex. 29 at 1 (EA #288: Mile 43 to Mile 41 North Bank Stabilization). In 2004, EA #402 proposed a "14,360 linear foot rock breakwater . . . along the north bank" of the MRGO. Pls.' Mot. for Partial Summ. J., Ex. 35 at 1 (EA #402: Lake Borgne-MRGO Shoreline Protection Project). In in 2005 civil action brought in the United States District Court Eastern District of Louisiana, plaintiffs in the case stipulated to the government's "Proposed Findings of Fact and Conclusions of Law" that "foreshore protection had been installed along the 6 miles of the north bank and 18 miles of the south bank of the MRGO as of August 29, 2005." Pls.' Mot. for Partial Summ. J., Ex. 5 at 14 (United States of America's Proposed Findings of Fact and Conclusions of Law in *In Re: Katrina Canal Breaches Consolidated Litigation*). In 2009, the Corps detailed in the 2009 Final Environmental Impact Statement for the MRGO how the United States Environmental Protection Agency, in project number PO-30 for CWWPRA, "provided an overview of the impacts and/or benefits resulting from the installation of foreshore protection features in Lake Borgne. The goal of this project was to help preserve the existing wetland land bridge between Lake Borgne and the MRGO by constructing shoreline protection features along a total of 5.3 miles . . . of the Lake Borgne shoreline . . . [and] [t]his project was authorized for construction on February 8, 2006, and construction activities began in September 2007" and "completed in December 2008." Pls.' Mot. for Partial Summ. J., Ex. 46 at 1-11 (U.S. Army Corp. of Engineers "Final Environmental Impact Statement for the Mississippi River-Gulf Outlet (MRGO), Louisiana, and Lake Borgne – Wetland Creation and Shoreline Protection Project").

Further, in addition to completed projects along the MRGO banks, plaintiff argues *proposed projects* contributed to landowners' justifiable uncertainty. *See* Am. Compl. at ¶ 48–56. A landowner need not receive “a legally binding promise or duty or a matter requiring a congressional appropriation” to be justifiably uncertain as to the permanency of an alleged taking. *Banks*, 314 F.3d at 1309. Rather, the “mere promise” of mitigation efforts, “held out by the Corps and repeatedly renewed but never implemented, indicate[s] that ‘the landowners did not know when or if their land would be permanently destroyed.’” *Id.* (quoting *Applegate*, 25 F.3d at 1583). “[P]roposals to correct the damage” done to the land put forward by the government can “further complicate[] ascertaining the extent and nature of the consequences” of the physical taking enough to trigger the doctrine of justifiable uncertainty. *Applegate*, 25 F.3d at 1584. Following the completed foreshore projects, numerous studies on the MRGO's erosive effects, potential restoration plans, and projects proposed by the Corps were prepared with the intent to restore the MRGO to its pre-MRGO state with the support of legislation and the award of Congressional funds.³² Although some studies never received approval, others, including multiple renewals of the WRDA, received congressional funds and led to subsequent projects situated, at least in part, along the MRGO. Following Hurricane Katrina in 2005, additional projects were contemplated, and Congressional funds awarded, for restoration of the MRGO.³³ Numerous studies contained specific projects aimed at restoring South Lake Borgne to preserve the land bridge separating Category Two from merging with Lake Borgne. While some of these studies did not focus specifically on South Lake Borgne itself, many of the studies concerned the entire channel, with detail regarding individual subunits—including South Lake Borgne. *See* Pls.' Mot. for Partial Summ. J., Ex. 41 at 75–79; 2012 Feasibility Report at 2-57–2-62. Plaintiffs owning property situated on the channel itself could justifiably rely on those proposed restorative efforts affecting both their land specifically and those affecting the entire channel to conclude the

³² Throughout the early 1990s, the Corps began to move forward with additional plans, task forces, and completed projects directed to the goal of “no overall net loss of the Nation's remaining wetlands base” *See* 1990 WRDA at § 307(a); *see also supra* at fn. 14. In 1994, the Corps published a reconnaissance report recommending both structural and nonstructural measures for “reducing bank erosion and/or restoring adjacent wetlands along the MRGO. Structural measures included the construction of bank protection structures, such as rock dikes, along the channel; and the enlargement of the channel to increase its cross-sectional area.” Pls.' Mot. for Partial Summ. J., Ex. 42 pt.1 at 35 (1994 MRGO Bank Erosion Reconnaissance Report). In 1998, a conglomerate of federal, state, and local governments published a report noting the intent to authorize additional “funding for more rock along the north bank,” in addition to “dredged material . . . to be used beneficially behind the rock.” Pls.' Mot. for Partial Summ. J., at Ex. 43 pt.2 at 89 (Coast 2050 Report). In 1999, under the 1996 WRDA, the Corps conducted three projects along the MRGO to create 76 acres of wetlands with materials dredged from the channel. *See* Am. Compl. at ¶ 53. In 2004, the Corps proposed building 38 miles of rock breakwaters along the banks of the MRGO to prevent the merger of the MRGO and Lake Borgne. *See* Pls.' Mot. for Partial Summ. J., Ex. 45 at 3 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). The Corps noted the construction of rock breakwaters along the banks of the MRGO and southern shore of Lake Borgne “has been effectively used . . . to prevent bankline retreat and protect large areas of estuarine wetlands from further erosion and degradation.” *Id.* at 2. The rock breakwaters further “may also facilitate future wetland creation using dedicated dredging and/or beneficial use of dredged material” *Id.* Additionally, in 2004, the Corps presented in a Power Point the Breaux Act Projects, which detailed two “hydrologic restoration projects” constructed in the region and two additional “shoreline protection projects” proposed along the MRGO. Pls.' Reply Br. Opp'n, Ex. 56 at 46–47 (U.S. Army Corps of Engineers, MRGO Studies). The proposed shoreline protections projects had an estimated cost of \$45 million to benefit 495 acres of land, and the constructed hydrologic restoration projects cost \$2.6 million and benefited 889 acres. *Id.*

³³ *See supra* Section VI.b.

alleged taking of their land lacked the permanency required to trigger the six-year statute of limitations. *Banks*, 314 F.3d at 1309–10.

The evidence the Court references for projects and reports on the MRGO are all publicly available documents available to plaintiffs at the time of publication. Such evidence may have, therefore, informed plaintiffs of the uncertainty as to the alleged government taking. In *Banks*, the government’s actions created “greater uncertainty [regarding] the Corps’ mitigation plan . . . [because] the Corps in this case actually performed its mitigation activities for several years before the filing of this action.” *Banks*, 314 F.3d at 1309–10. Similarly, here the numerous studies and recommendations, combined with the previously completed projects in South Lake Borgne, may demonstrate the government’s commitment to efforts to mitigate the effects of the MRGO. Although initial erosion occurred shortly after opening the MRGO, a landowner could reasonably rely on completed projects along Category Two and similar regions of the channel, as well as public reports and grants related to future projects to provide, redress for the accrued damage. A landowner who sees projects completed on their property or neighboring property and has access to comprehensive studies discussing future projects has a far different level of certainty than a landowner who observes the “Corps neither undertook nor committed itself to any mitigation.” See *Mildenberger v. United States*, 643 F.3d 938, 947 (Fed. Cir. 2011) (explaining “[t]here is no justifiable uncertainty due to the Corps’ promises before the 1990s because the Corps neither undertook nor committed itself to any mitigation activities”).

The evidence in the record indicates plaintiffs’ claims likely stabilized at some point between 1983 and 1988. Viewing the evidence in the light most favorable to plaintiffs, however, stabilization of the plaintiffs’ takings claims related to land on the channel of Category Two occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. The Court therefore concludes the evidence before it, read in the light most favorable to plaintiffs, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government must create “justifiable uncertainty about the permanency of the taking,” and plaintiffs must be “aware of [mitigation] plans” during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. Between 1988 and 2008, the Corps completed a series of projects specifically seeking to mitigate continued erosion along the banks of the MRGO. Beyond the completed projects, numerous additional studies and proposed projects suggested additional mitigation efforts would be completed along the channel. Reading the evidence of the government’s proposed and completed mitigation efforts in the light most favorable to plaintiffs, justifiable uncertainty may toll the statute of limitations on plaintiffs’ claims related to land on the channel of Category Two. See *id.*

B. Marshlands

1. Stabilization Doctrine

The Court next examines the marshland in South Lake Borgne surrounding the channel. As discussed in Category One, plaintiffs assert saltwater intrusion from the MRGO caused additional saltwater intrusion into the South Lake Borgne marshlands. See Am. Compl. at ¶ 31.

According to plaintiffs' amended complaint, this saltwater intrusion killed the natural vegetation of the marsh, which in turn reduced the volume of root systems and caused land erosion. *See Id.* (“[S]altwater from the Gulf of Mexico flows up the MRGO and into the St. Bernard Parish marshes This saltwater intrusion kills the natural vegetation of the marsh and the roots of these dead plants can no longer hold the soil together along the MRGO channel banks This process has caused erosion of plaintiffs' land.”).

The MRGO was completed in 1968, and the environmental effects of the MRGO on the surrounding marshlands were readily apparent soon after.³⁴ *See* Day Report at 19. A 2008 study found between the 1950s and 2000s, the South Lake Borgne region experienced dramatic hydrological changes represented by the conversion of brackish marsh to higher-salinity salt marshes, as well as an increase in the area of open water and corresponding decrease in total area of marshland.³⁵ *See id.* at 44–45. In 1984, the Corps released a report which noted the marshland was disappearing at a rate of approximately 21,900 acres per year. *See* 1984 Initial Evaluation Study at 60–61. By 1988, the Corps released a report detailing the negative effects of saltwater intrusion and its effect on “less saline vegetation,” concluding that “[s]altwater intrusion . . . contributes significantly to marsh loss in the study area.” 1988 Reconnaissance Report at 27.

Uncertainties of terrain and irregularity of the erosion resulted in plaintiffs' reasonable inability to immediately determine the permanency of any alleged taking following completion of construction of the MRGO in 1968. Stabilization, however, does not require “the progressive environmental damage [to] stop[]” so long as the “environmental forces have substantially and permanently invaded the private property” *Boling*, 220 F.3d at 1371. Plaintiffs' 15 June 2020 “list of details found in the record” references a study conducted by the Corps titled the “USACE Louisiana Coast Area, Louisiana, Land Loss and Marsh Creation, Initial Evaluation Study,” which was published in November 1984. *See* Pls.' Paper at 3 (citing 1984 Initial Evaluation Study). The study in part explicitly envisions the creation of “approximately 5,000 acres” of marshland in Category Two through the beneficial use of materials dredged from the MRGO. *See* 1984 Initial Evaluation Study at 85. This report may indicate the government was aware of the physical ramifications of the MRGO on the marshlands of Category Two and, similarly, a reasonable landowner would have been aware of saltwater from the MRGO “permanently invad[ing] the private property” and causing erosion of the marshlands. If this is the case, plaintiffs' claims may have stabilized as early as 1984. *See Fallini*, 56 F.3d at 1382 (noting “[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the ‘permanent nature’ of the taking was evident”). By at least the time the 1988 Reconnaissance Report was released, however, landowners should have both been visually aware of the physical erosion to the land and made

³⁴ “Greater than 12,000 acres of the swamps . . . South Lake Borgne and other units were killed shortly after the opening of the MRGO” Day Report at 19.

³⁵ “South Lake Borgne [in the 1950s] is listed as having brackish (23,773 acres) and salt (1041 [sic] acres) marsh, and swamp (668 acres). No acreage of fresh or intermediate marsh was listed for the South Lake Borgne unit. . . . The presence of cypress trees out to the edge of Lake Borgne indicate soil salinities in the fresh to intermediate range (cypress cannot tolerate salinities of more than 3-5 ppt).” *Id.* at 44. In the 1960s “South Lake Borgne has less intermediate (739 acres) and more brackish (19,346) marsh and 294 acres of swamp.” *Id.* at 45. By 2000, “South Lake Borgne had less intermediate (24 acres) and brackish (7,659) marsh and more salt marsh (9,549 acres). Swamp had been reduced to 5 acres.” *Id.* at 44.

aware of the changes to the land by the government's report itself. Plaintiffs' takings theory is based on saltwater intrusion from the MRGO leading to increased erosion of plaintiffs' land. Am. Compl. at ¶ 31. By 1988, publicly available reports and studies made clear "[e]rosion and disintegration of the banks of the MR-GO has created many additional routes for saltwater to intrude into formerly less saline interior marshes" and therefore "salinity in the marshes has increased significantly" over the prior 20 years. 1988 Reconnaissance Report at 27.

Based on the evidence currently before the Court, plaintiffs' claims likely stabilized at some point between 1984, when the Corps issued a report noting the value of beneficial dredge materials in creating thousands of acres of marshland, and 1988, when the government published the 1988 Reconnaissance Report noting the changes in salinity and corresponding erosion in the surrounding areas. Viewing the evidence in the light most favorable to plaintiffs, however, stabilization of plaintiffs' claims occurred by 1988 at the latest. For the purpose of the government's motion for summary judgment, absent the justifiable uncertainty doctrine tolling the statute of limitations, the six-year statute of limitations period for plaintiffs' claims related to the marshland of Category Two expired in 1994. *See Applegate*, 25 F.3d at 1583.

2. Justifiable Uncertainty

For landowners to be "justifiably uncertain" as to the permanency of the alleged taking, the "question is whether the 'predictability [and permanence] of the extent of damage to the [plaintiffs'] land' was made justifiably uncertain by the Corps' mitigation efforts." *Banks*, 314 F.3d at 1309 (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have "stabilized." *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings of land along the marshland of Category Two and therefore tolled the statute of limitations, the Court twice ordered plaintiffs to provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category Two, and the government had an opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All of the projects plaintiffs provided the Court as applicable to the justifiable uncertainty analysis are considered in the Court's analysis.³⁶

As early as 1992, the Corps began taking steps to mitigate damage to marshlands in South Lake Borgne, primarily by placing dredged material on the north bank of the MRGO so as "to develop, restore, and nourish wetlands."³⁷ Pls.' Mot. for Partial Summ. J., Ex. 12 at 3 (Letter from Colonel Kenneth H. Crow to Senator John Breaux). From 1992 to 2004, the Corps detailed in various environmental assessments ("EAs") and environmental impact statements ("EISs") the placement of beneficial dredged materials in the marshlands in South Lake Borgne.³⁸

³⁶ *See supra* Section VII.A.2.

³⁷ A letter from Colonel Kenneth H. Crow to Senator John Breaux detailed the Corps' 20-year Long Term Disposal Plan for "the placement of dredged material on the north bank of the MR-GO to develop, restore and nourish wetlands." Pls.' Mot. for Partial Summ. J., Ex. 12 at 3 (Letter from Colonel Kenneth H. Crow to Senator John Breaux).

³⁸ In 1992, EA #162 noted "[m]aterial removed during routine channel maintenance would be used to enhance and create approximately 555 acres of marsh and shallow open water," which "would result in the creation and

Throughout the early 1990s, the Corps began to move forward with additional plans and projects directed to the goal of “no overall net loss of the Nation’s remaining wetlands base”³⁹ 1990 WRDA at § 307(a). In the late 1990s, and stretching into the early 2000s, the Corps continued implementing and planning various projects to further mitigate any alleged negative effects to the marshlands.⁴⁰ Following Hurricane Katrina in 2005, additional projects were contemplated and implemented, which affected the marshland areas of South Lake Borgne.⁴¹ As the Federal Circuit has noted, both proposed projects and actual mitigation efforts by the government go directly to whether the landowners were “justifiably uncertain” as to the permanency of the alleged taking. *Banks*, 314 F.3d at 1309–10.

The marshlands habitat in South Lake Borgne experienced significant fluctuations during the time period overlapping with various projects performed and proposed by the Corps.⁴² Between 1988 and 1997, certain areas of marshland cycled between classification as brackish marsh, intermediate marsh, and saline marsh.⁴³ In another area of marshland in South Lake

nourishment of wetlands and associated wildlife habitat.” Pls.’ Mot. for Partial Summ. J., Ex. 21 at 1 (EA #162: Marsh Enhancement/Creation – Mile 23.0 to 27.0). In 1998, EA #269 the Corps established additional disposal areas “from Miles 36.5 to 32 and Miles 49.0 to 46.5 of the MR-GO” and emphasized how the material would be placed into the disposal sites “in a manner conducive to wetland development, creating and/or restoring wetlands each cycle.” Pls.’ Mot. for Partial Summ. J., Ex. 25 at 1 (EA # 269 and EA # 269-A: South of Lake Borgne Additional Disposal Areas). In 2000, EA #269-B detailed placement of dredged material behind rock retention dikes. *See* Pls.’ Mot. for Partial Summ. J., Ex. 26 at 1 (EA #269-B: Additional Dispersal Areas Plus Deflection Dike and Flotation Channels). In 2001, EA #277 designated new disposal areas for beneficial use of dredged material and noted “[a]ll material would be placed into the proposed disposal sites . . . in a manner conducive to wetland development, creating and/or restoring wetlands each cycle.” Pls.’ Mot. for Partial Summ. J., Ex. 30 at 1 (EA #277: Shell Beach Disposal Areas). In 2004, EA #354 designated additional disposal areas utilized “to protect the shoreline from erosion at proposed disposal sites” through the “beneficial use of dredged material.” Pls.’ Mot. for Partial Summ. J., Ex. 33 at 1 (EA #354: Additional Disposal Area Designation Miles 66.0 to 49.0).

³⁹ *See supra* Section VI.b.

⁴⁰ In 1999, the Corps conducted three projects along the MRGO to create 76 acres of wetlands with materials dredged from the channel. *See* Am. Compl. at ¶ 53. In 2004, the Corps proposed building 38 miles of rock breakwaters along the banks of the MRGO to prevent the merger of the MRGO and Lake Borgne. *See* Pls.’ Mot. for Partial Summ. J., Ex. 45 at 3 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). The Corps noted the construction of rock breakwaters along the banks of the MRGO and southern shore of Lake Borgne “has been effectively used . . . to prevent bankline retreat and protect large areas of estuarine wetlands from further erosion and degradation.” *Id.* at 2. The rock breakwaters further “may also facilitate future wetland creation using dedicated dredging and/or beneficial use of dredged material” *Id.* Additionally, in 2004, the Corps presented in a Power Point the Breaux Act Projects, with four projects included in the PED and two constructed projects. *See* Pls.’ Reply Br. Opp’n, Ex. 56 at 46–47 (U.S. Army Corps of Engineers, MRGO Studies). The PED projects included two shoreline protection projects along Lake Borgne and the MRGO, with an estimated cost of \$45 million to benefit 495 acres of land, and the constructed projects included two hydrologic restoration projects in the same area, which cost \$2.6 million and benefited 889 acres. *Id.*

⁴¹ *See supra* Section VI.b.

⁴² From the 1950s to the 2000s, in the “South Lake Borgne Unit, there was a small change in the area of intermediate marsh (24 acres) and swamp (-554 acres). There was a dramatic loss of brackish marsh (-16,115 acres) due to both construction of the MRGO canal as well as conversion of salt marsh due to higher salinity. Water area also increased (12,283) due to both MRGO canal construction and conversion of marsh to open water.” Day Report at 46.

⁴³ “[H]abitat change was considerable between 1988 and 1997. Brackish marsh decreased from 61.5% of the property to 33% due primarily to conversion to saline marsh, which comprised 15% of the property. The increase in water habitat (32.5% of the property) appears to have resulted from both interior pond formation and from erosion along the MRGO. Intermediate marsh habitat comprised 7% of the property, most likely arising from the freshening effect of the violet siphon.” 2018 Mendelssohn Report at 4. Yet just four years later, in 2001, “saline marsh had

Borgne, brackish marsh steadily decreased, open water increased, and salt marsh experienced fluctuations until 2013, when it exponentially increased.⁴⁴ Yet another area of South Lake Borgne experienced expansion of salt marshes from 1988 to 1997, but then experienced a disappearance of salt marsh in a portion of the property from 2001 to 2013.⁴⁵ A landowner observing these fluctuations in salinity could reasonably attribute the hydrological changes to the implementation of various Corps projects aimed at mitigating any negative effects to the marshlands. *Banks*, 314 F.3d at 1309.

Based on the evidence before the Court, stabilization of plaintiffs' claims related to the marshlands of Category Two may have occurred at some point between 1984, when the Corps issued a report on the use of beneficial dredge materials in the surrounding marshland, and 1988, when the government published the 1988 Reconnaissance Report noting changes in the salinity of Category Two. Viewing the evidence in the light most favorable to plaintiffs, therefore, stabilization of the plaintiffs' takings claims in the marshlands of Category Two occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent to landowners. The Court therefore concludes the evidence before it, read in the light most favorable to plaintiffs, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government must create "justifiable uncertainty about the permanency of the taking," and plaintiffs must be "aware of [mitigation] plans" during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. The record before the Court reveals numerous examples of beneficial dredge material used by the Corps to facilitate wetlands creation in the marshlands of Category Two during the 1990s and 2000s. Reading the evidence of the government's proposed and completed mitigation efforts in the light most favorable to plaintiffs, justifiable uncertainty may toll the statute of limitations on plaintiffs' claims related to land on the marshlands of Category Two. *See id.*

VIII. Analysis of Category Three – MRGO Spoil Bank

Category three, the MRGO Spoil Bank corresponds to geographical "Subunit 32" of Exhibit 1 contained in the 2012 Feasibility Report. *See* 2012 Feasibility Report at 2-58. Subunit 32 is composed of dredged material placed along the southern shore of the MRGO, separating

converted back to brackish marsh, covering 49% of the property, with little intermediate marsh (0.5%) and water comprising 39% of the property." *Id.*

⁴⁴ In Biloxi West, from 1968 to 2013, brackish marsh decreased from 1,926 acres to 235 acres. *See* 2017 Mendelssohn Report at 53. Open water increased from 296 acres in 1978 to 591 acres in 2013. *Id.* Salt marsh decreased from 211 acres in 1949 to zero acres in 1968–1978 but increased to 640 acres in 1988. *Id.* Salt marsh decreased to 578 acres in 2007 but jumped to 1,452 acres in 2013. *Id.* "The increase in salt marsh habitat in [Biloxi West] proceeded over time from the south as the salt marsh on the north side of the MRGO expanded in a northwest direction." *Id.* at 30.

⁴⁵ For the Borgnemouth property, the level of brackish marsh steadily increased up until sometime between 1978 and 1988; whereupon a sharp drop in the acreage of brackish marsh was experienced until sometime between 1997 and 2001. Again, somewhere between 2001 and 2007, however, the level of brackish marsh again dropped until the study concluded in 2013. *See* 2017 Mendelssohn Report at 54. The level of salt marsh also underwent significant fluctuation. Following construction of the MRGO, all salt marsh disappeared somewhere between 1978 and 1988. By 1988, however, a significant area of land (1,283 acres) became salt marsh. This level steadily dropped until ultimately reaching zero again by 2007, only to increase again by 2013 to more than 700 acres. *Id.*

the MRGO channel from Subunit 13 and 23.⁴⁶ Subunit 32 includes the Vincent Marshlands, Livaudais, Borgnemouth, Lake Eugenie, and Biloxi properties. *See* JSR, ECF No. 154 at 2.

A. Stabilization Doctrine

As in Category Two, plaintiffs' properties are situated on the south side of the MRGO channel banks across from South Lake Borgne. Plaintiffs present a similar theory of takings as for land along the channel in the South Lake Borgne region, arguing the dredging and operation of the MRGO caused erosion along the channel banks, widening the channel width to over 2,000 feet. Am. Compl. ¶ 30. The construction of the MRGO did not cut directly through the subunit—unlike the Central Wetlands and South Lake Borgne regions—because, until the creation of the channel, the MRGO Spoil Bank did not exist as an individual subunit. Instead, the Corps created the MRGO Spoil Bank from material dredged from the MRGO.⁴⁷ Prior to dredging, “[t]he United States obtained [from plaintiffs] . . . rights of entry for construction and spoil disposal that extended 1500 feet from the channel’s original centerline,” which it used to create the MRGO Spoil Bank. Gov. Mot. for Summ. J. at 9. While the government received servitudes extending up to 1,500 feet from the centerline of the channel for construction and spoil disposal, eventually the entirety of the area granted in the servitudes was being utilized only for the channel itself. *Id.* at 36 (citing 1988 Reconnaissance Report at 26, 30).

As noted by plaintiffs in their supplemental briefing, by at least 1983 the Corps “constructed foreshore protection test sections” along the banks of Category Three consisting of “armor coating” the shoreline with various stone and concrete configurations. *See* Pls.’ Supp. Paper at 29. Projects related to testing the effectiveness of various foreshore protections may indicate the government was aware of erosion of plaintiffs’ land along the banks of the channel at least by 1983. If this is the case, it may similarly be true erosion along the banks of the MRGO was such “that the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable” to landowners. *Boling v. United States*, 220 F.3d 1365, 1371 (Fed. Cir. 2000). The 1988 Reconnaissance Report, found the “land cut of the MRGO has increased from [a top width of] 650 feet to an average of 1,500 feet” and “the unleveed reaches are retreating at varying rates from five to over 40 feet per year.” 1988 Reconnaissance Report at 26, 30. Thus, while the government received servitudes extending up to 1,500 feet from the centerline of the channel for construction and spoil disposal, the entirety of the area granted in the servitudes was now being utilized only for the channel itself, and the average width of the channel exceeded the original channel footprint by more than 230%. Stabilization does not require “the progressive environmental damage [to] stop[]”; this nearly 1,000-foot increase in the width of the channel constitutes a substantial and permanent invasion of “private property such that the permanent nature of the taking is evident and the extent of the damage is reasonably

⁴⁶ “Beneficial use” dredge material is “any use which would protect, enhance, or provide a platform for the restoration of vegetated wetlands.” Coast 2050 Report at 130. The Coast 2050 report emphasizes “[b]eneficial use of dredged material resources . . . can take on any of several forms[,]” with “[s]ediments represent[ing] one of the most important resources for building wetlands.” *Id.* at 129–30. Dredging activities in Louisiana “account for the removal and redeposition of 90 to 120 million cubic yards of sediment annually,” and the Coast 2050 report notes it “has been the USACE’s practice that, as long as the effort to achieve beneficial use is within the project’s base plan or federal standard cost, the USACE can and will make beneficial use of dredge material resources.” *Id.*

⁴⁷ From 1950 to 1960, the Central Wetlands subunit received 9,191 acres of spoil material while the Jean Louis Robin received 12 acres. *See* Day Report at 57.

foreseeable.” *Boling*, 220 F.3d at 1371; *see also id.* at 1373 (“the takings claims accrued when the erosion has substantially encroached the parcels at issue and the damages were reasonably foreseeable.”).

The uncertainties of the local terrain and difficulty in determining the location of the government’s easement meant plaintiffs’ claims did not immediately stabilize upon completion of the MRGO. Based on the evidence currently available before the Court, stabilization of plaintiffs’ claims may have occurred as early as 1983 when the government began working on foreshore protection projects intended to prevent further bank erosion. *See Fallini v. United States*, 56 F.3d 1378, 1382 (Fed. Cir. 1995) (noting “[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the ‘permanent nature’ of the taking was evident”). Viewing the evidence in the light most favorable to plaintiffs, however, by at least 1988 the dramatic growth of the channel and public release of the 1988 Reconnaissance Report put the landowners on adequate notice for any alleged takings claim to stabilize. Therefore, for the purposes of the cross-motions for summary judgment, absent justifiable uncertainty tolling the statute of limitations, the six-year statute of limitations period for plaintiffs’ claims for land in Category expired no later than 1994. *See Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

B. Justifiable Uncertainty

For landowners to be “justifiably uncertain” as to the permanency of the alleged taking, the “question is whether the ‘predictability [and permanence] of the extent of damage to the [plaintiffs’] land’ was made justifiably uncertain by the Corps’ mitigation efforts.” *Banks v. United States*. 314 F.3d 1304, 1309 (Fed. Cir. 2003) (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have “stabilized.” *Id.* at 1309. To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings in Category Three and therefore tolled the statute of limitations, the Court twice had plaintiffs provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category Three, and the government had an opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All of the projects plaintiffs provided the Court as applicable to the justifiable uncertainty analysis are considered in the Court’s analysis.⁴⁸

Between 1983 and 2004, the Corps completed numerous projects constructing various forms of foreshore protections and placing beneficial use dredge material along the banks of the

⁴⁸ Plaintiffs’ 15 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Three: The Louisiana Coastal Wetlands Restoration Plan of 1993; the Mississippi River Gulf Outlet Ecosystem Restoration Plan; and proposed and completed projects to install concrete bank protection at different points along the channel. *See* Pls.’ Paper at 5–6. Plaintiffs’ 30 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Three: the construction of various “foreshore protection test sections” and eventually over 45 miles of foreshore protection along the MRGO spoil bank; the MRGO Back Dike Marsh Protection Project; and a proposal to provide over 30 miles of additional foreshore protection. *See* Pls.’ Supp. Paper at 28–30.

MRGO.⁴⁹ According to the government's own reports, the placement of dredge material in time caused the growth of new permanent vegetation and creation of new marshland habitat at the dredge material deposits.⁵⁰ The regrowth of marshland from saline marshes and open waters, as confirmed by the government's own expert report and stemming directly from the government's depositing of beneficial use dredge material, could have left landowners in Category Three justifiably uncertain as to the permanency of the alleged taking of the surrounding land. *See Boling*, 220 F.3d at 1372.

The government argues the work "performed to reinforce the federal levee system on the southern/western banks of the MRGO" should not "be interpreted as a promise or action to reverse or remediate the historic erosion that has taken place on any particular [p]laintiff's property." *See* Gov.'s Resp. to Pls.' Supp. Paper at 9. As demonstrated in numerous studies and Corps' proposals, however, the Corps used dredged material throughout the length of the channel for the benefit of the surrounding property owners. When feasible, the Corps worked with property owners to find the most beneficial use for dredged materials.⁵¹ Rather than for the sole purpose of keeping the banks of the MRGO upright, the beneficial use of dredge materials was likely recognized as being important for "a long-term goal to increase the quality and quantity of

⁴⁹ EA #38, dated in 1983, detailed "[w]ork constituting of constructing six additional foreshore protection test sections along 0.45 miles of the [MRGO]." Pls.' Mot. for Partial Summ. J., Ex. 13 at 1 (EA #38: MRGO Foreshore Protection Test Section). In 1985, EA # 47 detailed "[w]ork consist[ing] of placing 30-inch graded stone on a 9-inch shell bedding to provide foreshore protection," with the project "located on the south bank of the [MRGO] from the Bayou Bienvenue Control structure to the end of the Chalmette Loop Hurricane Protection Levee." Pls.' Mot. for Partial Summ. J., Ex. 14 at 1 (EA #47: MRGO Foreshore Protection). In 1988, the Bank Reconnaissance Report detailed completed "[f]oreshore protection along 13 miles along the south bank from Bayou Bienvenue to the end of the leveed reach." 1988 Reconnaissance Report at 14. In 1996, EA #244 detailed the completion of "protection and preservation of existing vegetated wetlands . . . on the existing south bank disposal area for the [MRGO] from approximately mile 36.0 to mile 30.0. Closure/repair of approximately 3,100 linear feet of back dike will prevent approximately 900 acres of existing fresh marsh from draining and becoming scrub-shrub habitat." Pls.' Mot. for Partial Summ. J., Ex. 22 at 1 (EA #244: MRGO Disposal Area Marsh Protection (Back Dike)). In 2004, EA #411 detailed a proposal for installation of articulated concrete mattress test sections along the bank of the MRGO. Pls.' Mot. for Partial Summ. J., Ex. 36 at 1 (EA #411: Installation of Articulated Concrete Mattressing, Mile 37.4 to 36.5).

⁵⁰ The government's 2017 Mendelssohn expert report acknowledged "the deposition of MRGO dredge material on the southern flank of the MRGO converted 551 ac of salt marsh and 147 ac of water to MRGO dredge habitat . . ." 2017 Mendelssohn Report at 17. Marsh habitat can be "created by the deposition of dredged material, which becomes vegetated over time by either marsh or terrestrial plants depending on the surface elevation of the dredged material relative to the local tidal amplitude." *Id.* The Coast 2050 report provides additional evidence of the effects beneficial dredge materials can have on wetlands restoration efforts, stating the Corps and State of Louisiana "have used dredged material resources to create over 7,000 acres of subaerial land which has become vegetated wetlands." Coast 2050 Report at 130.

⁵¹ It "has been the USACE's practice that, as long as the effort to achieve beneficial use is within the project's base plan or Federal standard cost, the USACE can and will make beneficial use of dredge material resources." *Id.*; *see also* 1990 WRDA at § 307(a) (stating the Corps shall have "an interim goal of no overall net loss of the Nation's remaining wetlands base . . . and a long-term goal to increase the quality and quantity of the Nation's wetlands . . ."). The Coast 2050 report emphasizes both "[t]he increased beneficial use of this dredged material resource must be an integral part of the plan to reduce Louisiana's yearly coastal land loss" and how "the potential for the beneficial use of dredged material to address Louisiana's coastal land loss is significant." *Id.* at 129–30. The 1990 WRDA, however, does not contain any specific language related to dredge material being used to rebuilt marshland around the MRGO. *See generally* 1990 WRDA.

the Nation's wetlands” and therefore furthering the Corps’ goal of “no overall net loss of the Nation’s remaining wetlands base” 1990 WRDA at § 307(a).⁵² The use of dredged materials for the restoration of surrounding wetlands in turn likely led to landowners to be “justifiably uncertain about the permanency of the erosion and the taking” *Applegate*, 25 F.3d at 1583.

Furthermore, Category Three is located in the same geographical area as Category Two, and those studies and proposals related to the MRGO’s erosive effects considered in the Court’s Category Two justifiable uncertainty analysis also apply here. The studies and proposals applying to both Category Two and Category Three include studies on erosion, potential restoration plans, proposed projects by the Corps to restore the MRGO to its pre-MRGO state, and legislation awarding Congressional funds for restoration efforts.⁵³ Although some studies never resulted in final projects, others proposals and legislative acts, including multiple renewals of the WRDA, received congressional funds and led to subsequent projects, at least in part, along the MRGO. Following Hurricane Katrina in 2005, additional projects were contemplated, and Congressional funds awarded to restoration of the MRGO.⁵⁴ While some of the reports and studies did not focus specifically or exclusively on the MRGO Spoil Bank, plaintiffs owning property situated along the channel, including in Category Three, could justifiably rely on proposed restorative efforts implemented at other points along the channel to conclude an alleged taking of their land lacked the permanency required to trigger the six-year statute of limitations. *See Applegate*, 25 F.3d at 1583. The current factual record does not clarify whether landowners were aware of the Corps’ overall restorative efforts when it pertained to their individual property

⁵² The language of the WRDA, combined with projects affecting Category Three proposed or completed by the Corps, may have led landowners to be justifiably uncertain as to whether the land would be repaired in pursuit of the goal of “no overall net loss of the Nation’s wetlands.” *Id.* There is still uncertainty in the record, however, regarding whether the specific landowners affected by the alleged taking knew of the 1990 WRDA and whether it affected how they viewed specific projects proposed or completed by the Corps affecting Category Three. *See Boling*, 220 F.3d at 1372.

⁵³ *See supra* Section VII.

⁵⁴ *See supra* Section VII.

in a specific subunit.⁵⁵ Similar statements were made by another landowner within the subunit.⁵⁶ *Boling*, 220 F.3d at 1372 (stating the doctrine of justifiable uncertainty depends in part on whether plaintiffs invoking the doctrine were aware of the mitigation efforts during the period they claim to be justifiably uncertain).

Based on the evidence before the Court, stabilization of plaintiffs' claims may have occurred at some point between 1983 and 1988. Viewing the evidence in the light most favorable to plaintiffs, however, stabilization of the plaintiffs' takings claims in Category One occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. The Court therefore concludes the evidence before it, read in the light most favorable to plaintiffs, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government must create "justifiable uncertainty about the permanency of the taking," and plaintiffs must be "aware of [mitigation] plans" during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. The record highlights numerous foreshore protection projects completed along the banks of the MRGO and directly affecting erosion experienced in Category Three. Furthermore, materials dredged from the MRGO were used for the construction of wetlands in the surrounding areas, and the government issued

⁵⁵ During a deposition in this case, government counsel asked the corporate representative for the Livaudais and Borgnemouth properties:

Q: "[Y]ou testified that [the] MRGO had eroded into property owned by the Borgnemouth and Livaudais Companies Do you recall, at any time, the Corps of Engineers promising that it would build bank stabilization measures, or any type of revetments, that would restore the MRGO channels to the borders that you testify appear in the top portion of Exhibit 13?

...

A: You're asking me if I, personally, heard the Corps of Engineers tell us that they would restore it back to the original channel size?

Q: That's right.

A: No.

Q: Do you ever recall the Corps of Engineers embarking upon a project that whose purpose it was to restore the channel to its original size?

A: Not to my knowledge.

Q: Okay. Do you recall the Corps of Engineers ever implementing, or promising to you, or your father, or others at your company, to remediate all of the environmental damage, and erosion, that you allege is depicted in the bottom half of Exhibit 13?

A: I'm not sure if I know that answer, or not.

Gov.'s Reply, Ex. 2 at 183:12–25, 184:1–24.

⁵⁶ In the deposition of the corporate representative for Vincent properties, government counsel asked:

Q: What are you aware of in terms of promises from the United States or acts by the United States that are actions you interpret to mitigate or remediate the injuries to your property at issue in this lawsuit?

A: Only thing I could relate to is my experience in my being in the area fishing where you see the Corps of Engineers was working on the -- trying to install barriers on the banks of the MRGO and also That continues sporadically over the years. They would be out there doing a project, and then they would stop, and I guess it related to funding, and occasionally you read in the paper where they announced some project happening, and then you would be out there and notice it.

Gov.'s Reply, Ex. 4 at 133:17–25, 134:1–9.

numerous reports and studies involving additional proposals for mitigation projects. Reading the evidence of the government's proposed and completed mitigation efforts in the light most favorable to plaintiffs, justifiable uncertainty may toll the statute of limitations on plaintiffs' claims related to Category Three. *See id.*

IX. Analysis of Category Four – Biloxi Marshes Interior

Biloxi Marshes Interior corresponds to geographical "Subunit 07" of Exhibit 1 contained in the 2012 Feasibility Report. *See* 2012 Feasibility Report at 2-58. Subunit 07 includes the Biloxi⁵⁷ and Lake Eugenie properties.⁵⁸ *See* JSR at 2. The "'Biloxi Marshes' is a geographical name for the remnant marshes of the St. Bernard delta, which is distinct from the Biloxi Marsh Land Corporation, a legal entity." 2017 Mendelssohn Report at 16. The boundaries of the Biloxi Marshes Interior do not touch the MRGO channel itself, as the marshlands of South Lake Borgne separate the two. *See* 2012 Feasibility Report at 2-58. The Biloxi Marshes Interior subunit is located to the north of the MRGO and borders Lake Borgne's shoreline. *See id.*

A. Stabilization Doctrine

As with the marshlands of Categories One and Two, plaintiffs' takings theory for the Biloxi Marshes Interior is premised on gradual erosion of land due to saltwater intrusion. *See* Am. Compl. at ¶ 31. Documenting saltwater intrusion, a 1999 historical study details that prior to MRGO opening, the Biloxi Marshes Interior was primarily brackish and saline marsh, with a small portion classified as fresh or intermediate marsh.⁵⁹ *See* Day Report at 54. According to 1978 measurements, the only hydrological change Biloxi Marshes Interior experienced since MRGO construction was a *decrease* in saline marshes.⁶⁰ *Id.* By 1990, however, the hydrological character of marsh shifted to result in all fresh marsh disappearing, brackish marsh decreasing, and saline marsh increasing.⁶¹ *Id.* Further, the Biloxi Marshes Interior experienced increase in areas of open water with decrease in marshland.⁶² *Id.*

The parties have not directed the Court to specific evidence suggesting a possible initial point landowners may have been aware saltwater had "substantially and permanently invaded" the marshlands of Category Four to the point where "the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable." *Boling v. United States*, 220 F.3d 1365, 1371 (Fed. Cir. 2000). By the time the 1988 Reconnaissance Report was released, however, there was sufficient evidence available to plaintiffs to demonstrate substantial erosion of the marshland and make clear "environmental forces have substantially and permanently

⁵⁷ "The majority of the property of the Biloxi Marsh Land Corporation . . . is located to the west of Lake Eugenie Land & Development property but still within the Biloxi marshes." 2017 Mendelssohn Report at 23.

⁵⁸ The majority of the Lake Eugenie property "is located within the area known as Biloxi Marsh." Britsch Report at 76.

⁵⁹ Prior to construction of the MRGO, the Biloxi Marsh Interior had 1,010 acres of fresh-to-intermediate marsh, 40,850 acres of brackish marsh, and 59,310 acres of salt marsh. *See* Day Report at 54.

⁶⁰ In 1978, the subunit had 930 acres of fresh-to-intermediate marsh, 47,980 of brackish marsh, and 42,070 of saline marsh. *Id.*

⁶¹ By 1990, no fresh-to-intermediate marsh remained, there was 36,060 of brackish marsh, and 50,950 acres of saline marsh. *Id.*

⁶² From 1956 to 1990 open water increased from 264,410 acres to 277,380 acres. *Id.*

invaded the private property” necessary to trigger the stabilization doctrine. *Id.* at 1371; *see also Fallini v. United States*, 56 F.3d 1378, 1382 (Fed. Cir. 1995) (noting “[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the ‘permanent nature’ of the taking was evident”). In the report, the Corps detailed the negative effects of the MRGO on the surrounding marshlands. 1988 Reconnaissance Report at 27. These negative effects included “[s]altwater intrusion . . . [which] contributes significantly to marsh loss in the study area,” resulting in the fact “salinity in the marshes has increased significantly in the last 20 years.” *Id.*; *see also* Gov. Mot. for Summ. J. at 36–37. According to plaintiffs, saltwater intrusion resulted in erosion of their property. Am. Compl. at ¶ 31. Therefore, the rapid increase of salinity and corresponding loss of marshland noted in the 1988 Reconnaissance Report should have made landowners aware of the permanency of any taking. *Boling*, 220 F.3d at 1371.

The evidence in the record indicates “environmental forces . . . substantially and permanently invaded” the marshlands of Category Four at some point on or before the date the 1988 Reconnaissance Report was published. *Id.* Viewing the evidence in the light most favorable to plaintiffs, stabilization of plaintiffs’ takings claims occurred in at least 1988, when the 1988 Reconnaissance Report both documented and reported the negative effects of saltwater intrusion on the marshland surrounding the MRGO. Therefore, for the purposes of the cross-motions for summary judgment, absent justifiable uncertainty the six-year statute of limitations period for plaintiffs’ claims in Category Four expired in 1994. *See Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

B. Justifiable Uncertainty

For landowners to be “justifiably uncertain” as to the permanency of the alleged taking, the “question is whether the ‘predictability [and permanence] of the extent of damage to the [plaintiffs’] land’ was made justifiably uncertain by the Corps’ mitigation efforts.” *Banks v. United States*, 314 F.3d 1304, 1309 (Fed. Cir. 2003) (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have “stabilized.” *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings in Category Four and therefore tolled the statute of limitations, the Court twice ordered plaintiffs to provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category Four, and the government had an opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All of the projects plaintiffs provided the Court as applicable to the justifiable uncertainty analysis are considered in the Court’s analysis.⁶³

⁶³ Plaintiffs’ 15 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Four: The USACE Louisiana Coast Area Land Loss and Marsh Creation Initial Evaluation Study; the 1988 Reconnaissance Report; and the Mississippi River Gulf Outlet Ecosystem Restoration Plan’s Final Feasibility Report. *See* Pls.’ Paper at 6. Plaintiffs’ 30 June 2020 supplemental paper listed the following completed or proposed items applying to a justifiable uncertainty analysis for Category Four: two examples of proposed “shoreline or bank protection” and a proposed freshwater diversion. Pls.’ Supp. Paper at 27–28.

Plaintiffs do not point to any completed projects in their supplemental paper as demonstrating the Corps' commitment to the actual implementation of mitigation projects in the Biloxi Marshes Interior. A landowner may rely, however, on "promises" by the government to complete mitigation efforts, as such promises "held out by the Corps and repeatedly renewed but never implemented, indicate[s] that 'the landowners did not know when or if their land would be permanently destroyed.'" *Banks*, 314 F.3d at 1309 (quoting *Applegate*, 25 F.3d at 1582).

Plaintiffs point to two proposed shoreline restoration projects contained in the 1993 Coastal Wetlands Planning, Protection, and Restoration Act ("CWPPRA") and a proposed freshwater diversion detailed in the Coast 2050 report as projects proposed by the government to affect the area and supporting justifiable uncertainty on the part of landowners. *See* Pls.' Supp. Paper at 27–28. The two 1993 CWPPRA project proposals involved shoreline protection along "the Lake Borgne shore of the Biloxi Marshes" and were incorporated into the 2012 Ecosystem Restoration Plan. *Id.* at 27. The Coast 2050 report plans for a "[w]etland sustaining diversion from the Mississippi River near Violet once the MRGO is closed."⁶⁴ Pls.' Mot. for Partial Summ. J., Ex. 43 at 87 (Coast 2050: Toward a Sustainable Coastal Louisiana) ("Coast 2050 Report"). This freshwater diversion, similar to the Violet Siphon, was proposed to be paired with other preservation provisions related to the maintenance and repair of the Biloxi Marshland Interior marshlands.⁶⁵ These project proposals occurred in a similar time as when the Corps began to move forward with other plans and projects affecting the area surrounding the MRGO and with the goal of "no overall net loss of the Nation's remaining wetlands base" ⁶⁶ 1990 WRDA at § 307(a).

Plaintiffs argue the increased salination of the water permeating the marshes of Category Four from both the MRGO channel itself and the corresponding salinity of Lake Borgne resulted in increased erosion of the surrounding property. Am. Compl. at ¶31. Landowners could therefore be justifiably uncertain as to the permanency of such erosion-based takings when at least one of the projects proposed at some point by the government over the relevant time period was largely aimed at preserving and restoring the wetlands through diversions of fresh water and increased sediment flow. *See* Pls.' Supp. Paper at 27–28. Similar to the analysis of the Violet Siphon and its effects on the justifiable certainty of landowners in Category One, a recommendation by the government to implement a freshwater siphon to create sediment flow and combat erosion constitutes justifiable uncertainty as to the permanency of the taking.⁶⁷

⁶⁴ The proposal states: "*Wetland sustaining diversion from the Mississippi River near Violet once the MRGO is closed. A 2,000 to 5,000 cfs diversion from the Mississippi River through the Violet Canal to sustain the Central Wetlands and Biloxi Marshes would be built. Such a diversion could not be effective until the MRGO is closed. This strategy is estimated to preserve moderate amounts of the marshes in the Central Wetlands adjacent to Lake Borgne.*" Coast 2050 Report at 87 (emphasis in original).

⁶⁵ Some of the provisions include: (1) "Dedicated delivery of sediment for marsh building"; (2) "Maintain shoreline integrity of Lake Borgne and protect shoreline of Biloxi Marshes"; and (3) "Construct breaches between MRGO and Lake Borgne . . . to contain the created marsh." *Id.* at 87–89.

⁶⁶ *See supra* Section VI.b.

⁶⁷ Mr. Charles Ogden, the general counsel of Lake Eugenie and Biloxi, described in his deposition the landowner's uncertainty regarding the proposed siphon project: "So we still had hope that we could get some freshwater diversion at least, or do something. Then when they came out with the 2009 Draft EIS for MRGO for the first time then we realized that they had what they called a TSP, the tentatively selected plan, that, for the first time, showed us

Although the project proposal for the siphon states it will not be “effective” unless the MRGO is closed, plaintiffs are further able to point to other proposed or completed projects corresponding with the Corps’ goal of “no overall wetland loss” and, in some instances, specifically aimed at preventing the merging of the MRGO and Lake Borgne.⁶⁸ While the MRGO did not cut directly through the Biloxi Marshes Interior, a landowner could be made justifiably uncertain as to the permanency of a taking in part based on projects planned or completed by the government along the MRGO to prevent salt water from further permeating the channel banks, such as projects related to shoreline stabilization seeking to prevent the merging of Lake Borgne and the MRGO. *See Banks*, 314 F.3d at 1309 (noting a landowner need not receive “a legal binding promise or duty or a matter requiring congressional appropriation” to be justifiably uncertain, because the “mere promise” of mitigation efforts, “held out by the Corps and repeatedly renewed but never implemented, indicate[s] that the landowners did not know when or if their land would be permanently destroyed”) (quotation marks and citations omitted). Here, plaintiffs cite no completed projects in their supplemental paper, but the studies, recommendations, and eventual closing of the MRGO demonstrate the government’s commitment to mitigation efforts. The projects proposed in various government reports include a “[w]etland sustaining [freshwater] diversion,” “[d]edicated delivery of sediment for marsh building,” “[m]aintaining shoreline integrity of Lake Borgne and protect shoreline of Biloxi Marshes,” and “[c]onstricting breaches between MRGO and Lake Borgne with created marshes.” Coast 2050 Report at 87–89. In 2006, Congress mandated the Corps develop a comprehensive plan to de-authorize the MRGO⁶⁹ and in 2009 officially closed the MRGO. *See* Pls.’ Mot. for Partial Summ. J., Ex. 51 at 1 (Mississippi River-Gulf Outlet Deep Draft De-authorization Study); 2012 Feasibility Report at S-2. At the point Congress mandated a plan to de-authorize the MRGO, landowners could be justifiably uncertain as to the effects of the freshwater diversion on the permanency of any salinity-based takings. As confirmed during a landowner’s deposition, it was not until 2012, the year of the final feasibility report, landowners in the Biloxi Marshes Interior were not included in any future restoration plan.⁷⁰

that the restoration plans for the damage done by MRGO was going to be practically everything on the NW side of the dam and very little, if any, on the bottom side.” Gov.’s Reply, Ex. 3 at 133:18–25, 134:1–5.

⁶⁸ In the 2004 USCAE LCA Ecosystem Restoration study, the Corps warned that the “rate of wetland loss in the area is accelerating” and “[r]apid action is required to protect the integrity of the southern Lake Borgne shoreline and to prevent continued erosion of the MRGO channel banks from ocean going vessel wakes.” Pls.’ Mot. for Partial Summ. J., Ex. 45 at 31 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). The Corps proposed building 38 miles of rock breakwaters along the banks of the MRGO to prevent the merger of the MRGO and Lake Borgne, noting such construction “has been effectively used . . . to prevent bankline retreat and protect large areas of estuarine wetlands from further erosion and degradation.” *Id.* at 2. The rock breakwaters further “may also facilitate future wetland creation using dedicated dredging and/or beneficial use of dredged material . . .” *Id.* Additionally, in 2004, the Corps presented in a Power Point the Breaux Act Projects, with four projects included in the PED and two constructed projects. Pls.’ Reply Br. Opp’n, Ex. 56 at 46–47 (U.S. Army Corps of Engineers, MRGO Studies). The PED projects included two shoreline protection projects along Lake Borgne and the MRGO with an estimated cost of \$45 million to benefit 495 acres of land, and the constructed projects included two hydrologic restoration projects in the same area which cost \$2.6 million and benefited 889 acres. *Id.*

⁶⁹ *See supra* Section VI.b.

⁷⁰ Mr. Ogden states: “So we realized that all the erosion that was still there caused by MRGO to the properties there, and there is some interworkings in some marsh fill in this area on Lake Borgne but none in the further up marshes. We realied [sic] then that there is no further plan for restoration. This is the final — Which in 2010 there

Viewing the evidence in the light most favorable to plaintiffs, stabilization of the plaintiffs' takings claims in Category Four occurred by at least 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. The Court therefore concludes the evidence before it, read in the light most favorable to the plaintiff, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government must create "justifiable uncertainty about the permanency of the taking," and plaintiffs must be "aware of [mitigation] plans" during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. The proposed freshwater diversion, although never completed, could leave landowners in Category Four justifiably uncertain as to the permanency of takings allegedly stemming from salinity-based erosion. Further, plaintiffs highlight shoreline protection and wetlands creation projects proposed in the 1990s and 2000s as contributing to justifiable uncertainty. Reading the evidence of the government's proposed and completed mitigation efforts in the light most favorable to the plaintiff, justifiable uncertainty may toll the statute of limitations on plaintiffs' claims related to Category Four. *See id.*

X. Analysis of Category Five – Biloxi Marshes Exterior

Category Five, the Biloxi Marshes Exterior, corresponds to geographical "Subunit 06" of Exhibit 1 contained in the 2012 Feasibility Report. *See* 2012 Feasibility Report at 2-58. Subunit 06 includes the Biloxi⁷¹ and Lake Eugenie properties.⁷² *See* JSR at 2. The "Biloxi Marshes" is a geographical name for the remnant marshes of the St. Bernard delta, which is distinct from the Biloxi Marsh Land Corporation, a legal entity." 2017 Mendelssohn Report at 16. The Biloxi Marshes Exterior does not touch the MRGO channel itself, but rather is separated from the channel by subunit 18. *See* 2012 Feasibility Report at 2-58. Biloxi Marshes Exterior is bordered by Chandeleur Sound on the east and is bordered by the Mississippi Sound miles to its north. *See id.* The most northeastern portion of the property "is an isolated island chain" "characterized by scattered islands, bays and large open water lakes." Gov. Mot. for Summ. J., Ex. 12 at 23 (The Biloxi Marsh Stabilization and Restoration Plan) ("King Report").

A. Stabilization Doctrine

Plaintiffs' takings theory for the Biloxi Marshes Exterior and other property not directly bordering the MRGO is based on erosion caused by saltwater intruding onto the property from the MRGO, rather than direct erosion occurring on the banks of the MRGO itself. *See* Am. Compl. at ¶31. The government argues the MRGO did not have an erosive effect on the Biloxi Marshes Exterior, but instead, "[t]he proximity of Plaintiffs' properties to the marine influences of Breton Sound, rising sea levels, subsidence, open exposure to wind waves and storm surge, and alterations to hydrology by human development caused salinity increases, habitat changes,

was a report and then in 2012 confirmed we're being left out of the restoration, at least in the areas, you know, south and east of the dam in the areas in the Biloxi Marsh and Lake Eugenie to the east." Gov.'s Reply, Ex. 3 at 134:6-18.

⁷¹ "The majority of the property of the Biloxi Marsh Land Corporation . . . is located to the west of Lake Eugenie Land & Development property but still within the Biloxi marshes." 2017 Mendelssohn Report at 23.

⁷² The majority of the Lake Eugenie property "is located within the area known as Biloxi Marsh." Britsch Report at 76.

erosion and land loss on Plaintiffs' properties throughout the Twentieth Century" and "will continue to cause salinity increases, habitat changes, erosion and land loss on Plaintiffs' properties now and in the future." Gov. Mot. for Summ. J. at 25.

Prior to construction of the MRGO, the majority of the Biloxi Marshes Exterior was located in a salt marsh habitat.⁷³ Following completion of the MRGO in 1968, the Biloxi Marshes Exterior experienced an increase in the area of brackish marsh—so less salty—instead of the increase in salt marsh observed in Categories One and Two.⁷⁴ The frequency of salt marshland has oscillated throughout subsequent years.⁷⁵ Additionally, as compared to other subunits, the Biloxi Marshes Exterior opens directly to various sounds, and the entire area "is under constant threat from active erosional forces generated as wave fetch developments across the exposed bays and lakes. This problem occurs on a daily basis and is exacerbated during tropical events." King Report at 27.

The parties have not directed the Court to any specific evidence suggesting a possible first point landowners may have been aware the saltwater had "substantially and permanently invaded" Category Five to the point where "the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable." *Boling v. United States*, 220 F.3d 1365, 1370 (Fed. Cir. 2000). Although the area did not experience substantial changes in hydrological conditions upon the completion of the MRGO compared to other subunits, by the time the 1988 Reconnaissance Report was published there was sufficient evidence available to plaintiffs to show substantial encroachments of saltwater into the marshlands was generally occurring throughout the delta. *See* 1988 Reconnaissance Report at 27; *see also Fallini v. United States*, 56 F.3d 1378, 1382 (Fed. Cir. 1995) (noting "[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the 'permanent nature' of the taking was evident"). The 1988 Reconnaissance Report explicitly highlights how both "[s]altwater intrusion . . . contributes significantly to marsh loss in the study area" and "salinity in the marshes has increased significantly in the last 20 years. 1988 Reconnaissance Report at 27. The report further notes this higher salinity has "reduced the amount" of certain plant life, with "less saline vegetation . . . greatly reduced by saltwater intrusion." *Id.*

By 1988 at the latest, the government's reports and the physical changes to the area made clear "environmental forces had substantially and permanently invaded the private property such that the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable," thus beginning the six-year statute of limitations for property owners in the Biloxi Marshes Exterior. *Boling*, 220 F.3d at 1371. Therefore, viewing the evidence in the light most favorable to the plaintiff for the purposes of the cross-motions for summary judgment, absent

⁷³ "Prior to MRGO construction, 99% of [Lake Eugenie East] property was located in salt marsh habitats along the outer fringes of the remnant of St. Bernard Delta." 2017 Mendelssohn Report at 16. The property "consisted of salt marsh (29,906 ac), brackish marsh (787 ac), and water (43,021 ac) habitats in 1949." *Id.* (citations omitted).

⁷⁴ "As of 1978, [Lake Eugenie East] was still primarily salt marsh (23,576 ac), although an area of brackish marsh (3,478 ac) was present in the northwestern portion . . . that had mostly converted from salt marsh in 1968." *Id.* at 18.

⁷⁵ In 1988, the habitat of the Biloxi Marshes Exterior "was still primarily salt marsh habitat (58%, 24,949)." *Id.* In 2001, the property "was still primarily salt marsh (22,663 ac)." *Id.* at 20.

justifiable uncertainty the six-year statute of limitations period for plaintiffs' claims in Category Five expired in 1994. *See Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

B. Justifiable Uncertainty

For landowners to be "justifiably uncertain" as to the permanency of the alleged taking, the "question is whether the 'predictability [and permanence] of the extent of damage to the [plaintiffs'] land' was made justifiably uncertain by the Corps' mitigation efforts." *Banks v. United States*, 314 F.3d 1304, 1309 (Fed. Cir. 2003) (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have "stabilized." *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings in Category Five, and toll the statute of limitations, the Court twice requested plaintiffs provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis. *See* Order, ECF No. 152; Order, ECF No. 160. The projects plaintiffs provided the Court as applicable are considered in the Court's analysis.⁷⁶

For the justifiable uncertainty analysis, plaintiffs do not cite any *completed* projects and reference only one *proposed* project directed at *potentially* mitigating damage to the marshlands of Category Five: The Bonnet Carre Freshwater Diversion. *See* Pls.' Paper at 6; Pls.' Supp. Paper at 24–26. A freshwater diversion at Bonnet Carre was first proposed in 1984 and was authorized by Congress pursuant to the Water Resources Development Act of 1988.⁷⁷ *See* 2012 Feasibility Report at 2-87; Pls.' Supp. Paper at 24–25. The diversion would have "provided for

⁷⁶ Plaintiffs' 15 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Five: The USACE Louisiana Coast Area Land Loss and Marsh Creation Initial Evaluation Study; the 1988 Reconnaissance Report; and the Mississippi River Gulf Outlet Ecosystem Restoration Plan's Final Feasibility Report. *See* Pls.' Paper at 6. None of the sources cited in plaintiffs' 15 June supplemental paper include proposed or completed projects directly affecting Category Five. *Id.* The fact these projects do not provide any examples of instances where the Corps directly "undertook [or] committed itself to any mitigation activities" means landowners could not rely on these projects to be justifiably uncertain as to the permanency of a taking. *Mildenberger*, 643 F.3d at 947. At oral argument, plaintiffs referenced the proposed Bonnet Carre spillway as the only project which was directly related to Category Five. *See* ECF No. 159 at 3:20:56–3:24:04 (recording of oral argument). Plaintiffs' 30 June 2020 supplemental paper noted only the proposed Bonnet Carre Freshwater Diversion project as relevant to a justifiable uncertainty analysis of Category Five. *See* Pls.' Supp. Paper at 24–26.

⁷⁷ The 1988 WRDA provided funds for "the project for environmental enhancement, Mississippi and Louisiana Estuarine Areas, Mississippi and Louisiana: Report of the Chief Engineers, dated May 19, 1986 . . ." *See* Water Resource Development Act of 1988, Pub. L. No. 100-676, tit. I § 3(a)(8), 102 Stat. 4012 (1988). This project, initially proposed in a 1984 Corps study, called for the creation of a freshwater diversion program through "breaching the natural riverbank" at different locations, some of which included property owned by the State of Louisiana. 1984 Initial Evaluation Study at 82. Further, as noted by the government, Category Five does not border Lake Borgne and "[p]laintiffs acknowledge[] this federal proposal was never built and was killed in 1996 when the State of Louisiana expressed its opposition." Gov't's Resp. to Pls.' Supp. Paper at 7. There is no discussion or detail in the record as to why Bonnet Carre project, funded by the 1988 WRDA, was not pursued after the State of Louisiana expressed its opposition. Plaintiff, however, does not dispute the project was never built and the Corps did not work on the project at least after the state expressed its opposition. *See* Pls.' Supp. Paper; ECF No. 159 at 3:23:10–3:24:00 (recording of oral argument).

the diversion of Mississippi River water to Lake Pontchartrain, through the existing Bonnet Carre Spillway . . . to reduce saltwater intrusion affecting Lakes Maurepas, Pontchartrain, and Borgne and the Mississippi Sound and adjacent wetlands.” Pls.’ Supp. Paper at 25.

The Bonnet Carre freshwater diversion project was never constructed, as the State of Louisiana expressed opposition to a large diversion of freshwater into Lake Pontchartrain and declined to participate in the project. *See id.* at 26 (“The State of Louisiana subsequently expressed opposition to a large diversion of freshwater into Lake Pontchartrain due to water quality concerns, and in July 1996 declined to participate further in the project.”). Following the 1996 rejection by the State of Louisiana, the only other proposal related to the Bonnet Carre spillway plaintiffs provide in the 31 July 2020 supplemental paper’s timeline of the proposed project is a 2012 MRGO Ecosystem restoration report. *See id.* (citing 2012 Feasibility Report at 2-87). This report itself only states the proposed Bonnet Carre freshwater diversion project “could be considered” as a possible project to fulfill the 2012 report’s “call[] for considering the diversion of freshwater from the Mississippi River for restoring the Lake Borgne ecosystem.” *Id.* (citing 2012 Feasibility Report at 2-87). Plaintiffs acknowledge the State of Louisiana declined to participate in the project in 1996, and the Bonnet Carre freshwater diversion project was never completed. *See id.* Plaintiffs argue, however, the Bonnet Carre freshwater diversion is “still an authorized project” under the 1988 WRDA and point to a 2012 ecosystem restoration plan calling for the “considering [of] the diversion of fresh water from the Mississippi River” at the Bonnet Carre diversion location as evidence the proposed project continues to create justifiable uncertainty. *Id.* Even assuming the proposed freshwater diversion resulted in justifiable uncertainty until Louisiana expressed its opposition to the project in 1996, there is at least an eleven-year gap in plaintiffs’ timeline of the proposed, but explicitly rejected, project. *See id.* at 25–26. It is not enough the project remained “authorized” by the 1988 WRDA, in the face of the state’s opposition and no evidence in the record of plans to complete the project after 1996, for landowners in Category Five to have remained justifiably uncertain as to the permanency of the alleged taking during at least this 11-year period. *Banks*, 314 F.3d at 1309.

Viewing the evidence in the light most favorable to plaintiffs, stabilization of the plaintiffs’ takings claims in Category Five may have occurred as late as 1988, when the 1988 Reconnaissance Report published and physical changes should have been apparent. To toll the statute of limitations after the claims stabilized, proposed or completed mitigation efforts by the government must create “justifiable uncertainty about the permanency of the taking,” and plaintiffs must be “aware of [mitigation] plans” during the period of time. *Boling*, 220 F.3d at 1372. Given the proposed spillway discussion, viewing the summary judgment evidence in the light most favorable to plaintiffs, the Bonnet Carre diversion may have been sufficient to create justifiable uncertainty as to the permanency of the alleged taking and toll the statute of limitations until as late as 1996, but then all project discussion ceased. In the absence of any further discussion, or other project creating justifiable uncertainty after 1996, the statute of limitations would no longer be tolled. *See Mildenberger v. United States*, 643 F.3d 938, 947 (Fed. Cir. 2011) (“There is no justifiable uncertainty due to the Corps’ promises before the 1990s because the Corps neither undertook nor committed itself to any mitigation activities.”). Accordingly, landowners had until 2002 to file suit. *Id.*

The Court granted the parties multiple opportunities to provide detail regarding projects affecting various portions of property at issue. *See, e.g.*, Order, ECF No. 156; Order, ECF No. 160. Plaintiffs cited no other projects, either proposed or completed, which would continue to toll the statute of limitations beyond 2002. After careful review of the voluminous record, the Court is further unable to locate any other projects which would cause a landowner in Category Five to remain justifiably uncertain. Based on the record presented by the parties, landowners in Category Five could have only been justifiably uncertain until as late as 1996, and plaintiffs' statute of limitations could have been tolled only until as late as 2002. *Banks*, 314 F.3d at 1309.

XI. Analysis of Category Six – Eloi Bay

Eloi Bay corresponds to geographical “Subunit 18” of Exhibit 1 contained in the 2012 Feasibility Report. *See* 2012 Feasibility Report at 2-58. Subunit 18 includes Terre Aux Boeufs,⁷⁸ Lake Eugenie,⁷⁹ and Biloxi properties.⁸⁰ *See* JSR at 2. Eloi Bay is situated on the northern MRGO channel banks east of South Lake Borgne subunit and extends north into the marshlands below the Biloxi Marshes Interior and Exterior. *See* 2012 Feasibility Report at 2-58. Eloi Bay extends the length of the channel into Chandeleur Sound. *Id.* There are thus two distinct types of land within Category Six: property situated on the banks of the channel and the remaining marshlands.

A. Channel

1. Stabilization Doctrine

As with Category Two, plaintiffs' properties are situated along the northern shore of the MRGO channel banks, and plaintiffs argue the dredging and operation of the MRGO caused erosion to widen the width of the channel banks to over 2,000 feet. Am. Compl. ¶ 30. The MRGO cut directly through Eloi Bay and opened a portion of the property to saltwater. The subunit was also previously open to Breton Sound and subject to natural erosive processes and saltwater intrusion.⁸¹ *See* King Report at 31. Prior to dredging, “[t]he United States obtained [from plaintiffs] . . . rights of entry for construction and spoil disposal that extended 1500 feet from the channel's original centerline.” Gov. Mot. for Summ. J. at 9. Thus, while the government received servitudes extending up to 1,500 feet from the centerline of the channel for construction and spoil disposal, by 1988 erosion of the channel banks meant the entirety of the area granted in the servitudes was utilized only for the channel itself. *Id.* at 36 (citing 1988 Reconnaissance Report at 26, 30).

⁷⁸ The Terra Aux Boeufs property “consists of two sections, Terre aux Boeufs-East, located north of the MRGO, and Terre aux Boeufs-West, located south of the MRGO.” 2018 Mendelssohn Report at 35. The Eastern portion of the property is in Eloi Bay. *See* 2012 Feasibility Report at 2-58.

⁷⁹ For Lake Eugenie, a portion of the Eastern property is in Eloi Bay. *Id.*

⁸⁰ Biloxi owns two separate property groups, Biloxi East and Biloxi West. “The majority of the [Biloxi East] property . . . is located to the west of Lake Eugenie Land & Development property, but still within the Biloxi marshes.” 2017 Mendelssohn Report at 23.

⁸¹ “The majority of this [Eloi Bay] is under constant threat from marginal erosion forces generated as wave fetch develops across Breton Sound and rolls into the interior exposed lakes. This problem occurs on a daily basis and is exacerbated during tropical events. This region is the southernmost area of interest of this marsh stabilization and restoration plan.” King Report at 31.

Plaintiffs' 31 July 2020 "list of citations and excerpts" details how, by at least 1985, the Corps was "conduct[ing] a number of projects, including installation of foreshore protection" See Pls.' Supp. Paper at 31. The installation of foreshore protection along the MRGO at least as early as 1985 may have been in response to the government's recognition of significant and continued erosion occurring along the channel of the MRGO. The government's possible awareness of physical changes occurring along the MRGO sufficient to stabilize plaintiffs' claims may in turn indicate landowners were aware of all of the facts necessary to stabilize their takings claims. See *Boling v. United States*, 220 F.3d 1365, 1372 (Fed. Cir. 2000). In 1988, the Corps publicly published the 1988 Reconnaissance Report, which documents erosion along the banks of the MRGO, noting the "land cut of the MRGO has increased from [a top width of] 650 feet to an average of 1,500 feet" and "the unleveed reaches are retreating at varying rates from five to over 40 feet per year." 1988 Reconnaissance Report at 26, 30. Stabilization does not require "the progressive environmental damage [to] stop[]"; this nearly 1,000-foot increase in the channel width, and continued erosion along the banks, would provide sufficient physical evidence to landowners a substantial and permanent invasion of "private property such that the permanent nature of the taking is evident and the extent of the damage is reasonably foreseeable." *Boling*, 220 F.3d at 1371.

The evidence available in the record related to MRGO channel widening through bank erosion indicates there was a "substantial and permanent" invasion of private property sufficient to trigger the doctrine of stabilization at some point between at least 1985, when the evidence in the record indicates the government was conducting foreshore protection projects along the MRGO channel, and 1988, the year the 1988 Reconnaissance Report detailed the substantial and continued widening of the MRGO channel. For the purpose of the government's motion for summary judgment, by at least 1988 the dramatic growth of the channel and publication of the 1988 Reconnaissance Report put the landowners on adequate notice for a taking to accrue. Therefore, absent justifiable uncertainty tolling the statute of limitations, the six-year statute of limitations period for plaintiffs' claims along the channel of Category Two expired in 1994. See *Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

2. Justifiable Uncertainty

For landowners to be "justifiably uncertain" as to the permanency of the alleged taking, the "question is whether the 'predictability [and permanence] of the extent of damage to the [plaintiffs'] land' was made justifiably uncertain by the Corps' mitigation efforts." *Banks v. United States*, 314 F.3d 1304, 1309 (Fed. Cir. 2003) (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have "stabilized." *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain regarding permanency of alleged takings in Category Six, and along the MRGO channel, and therefore tolled the statute of limitations, the Court twice ordered plaintiffs to provide supplemental briefing listing proposed and completed projects. See Order, ECF No.

152; Order, ECF No. 160. All of the projects plaintiffs provided the Court as applicable to the justifiable uncertainty analysis are considered in the Court's analysis.⁸²

Category Six is located in the same geographical area as Category Two; similar projects, studies, and proposed projects, applying to Category Two's justifiable uncertainty analysis apply here—including studies on erosion, potential restoration plans, and proposed projects by the Corps to restore Category Six to its pre-MRGO state.⁸³ Although some studies never received approval, others, including multiple renewals of the WRDA, received congressional funds and led to subsequent projects, at least in part, along the MRGO. *See supra* Section VII. Following Hurricane Katrina in 2005, additional projects were contemplated, and Congressional funds awarded to restoration of the MRGO.⁸⁴ A landowner need not receive "a legal binding promise or duty or a matter requiring a congressional appropriation" to be justifiably uncertain as to the permanency of an alleged taking. *Banks*, 314 F.3d at 1309. Rather, the "mere promise" of mitigation efforts, "held out by the Corps and repeatedly renewed but never implemented, indicate[s] that 'the landowners did not know when or if their land would be permanently destroyed.'" *Id.* (quoting *Applegate*, 25 F.3d at 1583).

Based on the results of various EISs and EAs, the Corps began a series of projects along the channel to address the environmental and physical impact of the MRGO. From 1998 to 2002, the Corps completed projects directed towards building retention dikes and the use of beneficial dredged material from the MRGO.⁸⁵ While some of the studies and proposed projects referenced by plaintiffs did not focus specifically or exclusively on Eloi Bay, plaintiffs owning property situated on the channel itself could justifiably rely on proposed restorative efforts implemented at other points along the channel to conclude an alleged taking of their land lacked the permanency required to trigger the six-year statute of limitations. *Applegate*, 25 F.3d at 1583.

⁸² Plaintiffs' 15 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Six: The USACE Louisiana Coast Area Land Loss and Marsh Creation Initial Evaluation Study; the 1988 Reconnaissance Report; the Mississippi River Gulf Outlet Ecosystem Restoration Plan's Final Feasibility Report; proposed and completed beneficial uses of dredged materials; and proposed and completed projects related to the construction of retention dikes and bank stabilization structures along the channel. *See* Pls.' Paper at 6–7. Plaintiffs' 30 June 2020 supplemental paper listed the following completed or proposed items as relevant to a justifiable uncertainty analysis for Category Six: installation of foreshore protection; beneficial use of dredged materials; proposed freshwater diversions into the marshland. *See* Pls.' Supp. Paper at 31.

⁸³ *See supra* Section VII.

⁸⁴ *See supra* Section VII.

⁸⁵ In 1998, EA #269 and #269-A detailed plans to construct additional disposal areas "from Miles 36.5 to 32 and Miles 49.0 to 46.5 of the MR-GO" and emphasized how the material would be placed into the disposal sites "in a manner conducive to wetland development, creating and/or restoring wetlands each cycle." Pls.' Mot. for Partial Summ. J., Ex. 25 at 1 (EA # 269 and EA # 269-A: South of Lake Borgne Additional Disposal Areas). In 2000, EA #269-B detailed placement of dredged material behind rock retention dikes. *See* Pls.' Mot. for Partial Summ. J., Ex. 26 at 1 (EA #269-B: Additional Dispersal Areas Plus Deflection Dike and Flotation Channels). Lastly, in 2002, EA #349 proposed to "designate additional disposal areas [and] construct closure and bank stabilization structures . . . between Mile 32 and Mile 27" of the MRGO. Pls.' Mot. for Partial Summ. J., Ex. 32 at 1 (EA #349: MRGO Miles 32-27 Additional Disposal Areas- Hopedale Marshes). EA #349 further made clear [d]redged material removed from the MR-GO channel project during routine maintenance events would be utilized beneficially for the creation of wetlands in shallow, open-water areas adjacent to the MR-GO." *Id.*

The evidence which the Court references for government projects and reports related to the MRGO are all public documents available to plaintiffs at the time of their publication. Such evidence was therefore available to plaintiffs to inform them of the uncertainty as to the alleged government taking. “[P]roposals to correct the damage” done to the land put forward by the government can “further complicate[] ascertaining the extent and nature of the consequences” of the physical taking enough to trigger the doctrine of justifiable uncertainty. *Applegate*, 25 F.3d at 1584. Although initial erosion occurred shortly after opening the MRGO, a landowner could reasonably rely on completed projects along similar regions of the channel and public reports and grants related to future projects to provide redress for the accrued damage. *See Banks*, 314 F.3d at 1309 (noting a landowner need not receive “a legal binding promise or duty or a matter requiring congressional appropriation” to be justifiably uncertain, because the “mere promise” of mitigation efforts, “held out by the Corps and repeatedly renewed but never implemented, indicate[s] that the landowners did not know when or if their land would be permanently destroyed”) (quotation marks and citations omitted). A landowner who sees projects completed on their property or neighboring property and has access to comprehensive studies discussing future projects is much more likely to be justifiably uncertain than a landowner who believes the “Corps neither undertook nor committed itself to any mitigation.” *See Mildenberger v. United States*, 643 F.3d 938, 947 (Fed. Cir. 2011).

Plaintiffs’ takings claims with regard to the land located along the MRGO channel in Category Six stabilized at some point between 1985 and 1988. Viewing the evidence in the light most favorable to plaintiffs, however, stabilization of plaintiffs’ takings claims in Category One occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. The Court therefore concludes the evidence before it, read in the light most favorable to plaintiffs, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government must create “justifiable uncertainty about the permanency of the taking,” and plaintiffs must be “aware of [mitigation] plans” during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. The record contains various examples of proposed and completed foreshore protection and beneficial use of dredge material projects along the channel of the MRGO affecting the land along the channel in both Category Six and other categories of land. Reading the evidence of the government’s proposed and completed mitigation efforts in the light most favorable to plaintiffs, justifiable uncertainty may toll the statute of limitations on plaintiffs’ claims related to land on the channel of Category Six. *See id.*

B. Marshland

1. Stabilization Doctrine

As discussed in Category One, plaintiffs assert saltwater intrusion from the MRGO killed the natural vegetation of the marsh, which in turn reduced the volume of root systems and caused erosion of plaintiffs’ land. Am. Compl. at ¶ 31. Prior to construction of the MRGO, Eloi Bay was located in salt and brackish marsh habitat.⁸⁶ Upon construction and operation of the MRGO,

⁸⁶ In 1958, Eloi Bay was “mainly brackish (18,039 acres) and salt (17,467) marsh.” *See* Day Report at 44. In 1960, “there was a loss of brackish marsh (-10,872) and an increase in salt marsh (832 acres). These changes were due to an increase in open water (4,960) acres.” *Id.* at 47.

the total area of salt marsh subsequently increased and the total area of brackish marsh decreased.⁸⁷ As with Category Five, Eloi Bay opens directly to Chandeleur Sound and “is under constant threat from marginal erosion forces generated as wave fetch develops across Breton Sound and rolls into the interior exposed lakes. This problem occurs on a daily basis and is exacerbated during tropical events. This region is the southernmost area of interest of this marsh stabilization and restoration plan.” King Report at 31. Category Six, although subject to similar erosive processes from Chandeleur Sound as Category Five, experienced a notable increase in saline marsh and a decrease in brackish marsh following the opening of the MRGO. Day Report at 57.

While the Court has already noted the uncertainty in the terrain and irregularity of erosion of Category Six regarding land around the channel, such uncertainties are even more pronounced when proceeding into the marshlands. Stabilization, however, does not require the progressive environmental damage to stop so long as the landowners were or should be aware “environmental forces have substantially and permanently invaded the private property” *Boling*, 220 F.3d at 1371. Plaintiffs’ 15 June 2020 “list of details found in the record” references as related to projects affecting Category Six a study conducted by the Corps titled the “USACE Louisiana Coast Area, Louisiana, Land Loss and Marsh Creation, Initial Evaluation Study” published in November 1984. *See* Pls.’ Paper at 7 (citing 1984 Initial Evaluation Study). The 1984 Corps’ study specifically envisioned the “creat[ion of] 5,000 acres of marsh with material obtained from the maintenance dredging of the Mississippi River-Gulf Outlet,” which would be “placed to an elevation for creating marsh.” 1984 Initial Evaluation Study at 85. As with Category Two, the report’s specific plans to create “approximately 5,000 acres” of marshland in a region encompassing the marshlands of Category Six through the use of beneficial dredge materials may indicate the government was aware of the need for specific “marsh creation” to counteract the effect of erosion on the surrounding marshes. *Id.* at 87. If the government was aware of the effects of erosion on the surrounding marshland and sought to counteract these effects, it may be the case a reasonable landowner would have similarly been aware saltwater from the MRGO was “permanently invad[ing] the private property” and causing the effects on vegetation plaintiffs claim led to the marsh erosion. *Boling*, 220 F.3d at 1371. Plaintiffs’ claims therefore may have stabilized as early as 1984. *See Fallini v. United States*, 56 F.3d 1378, 1382 (Fed. Cir. 1995) (noting “[i]t is not necessary that the damages from the alleged taking be complete and fully calculable before the cause of action accrues . . . [so long as] the ‘permanent nature’ of the taking was evident”).

By the publication of the 1988 Reconnaissance Report, however, landowners should have been both visually aware of the physical changes occurring to their property and put on notice by the government’s reports on the intrusion of saltwater. Plaintiffs’ takings theory is based on saltwater intrusion from the MRGO leading to increased erosion of plaintiffs’ land. Am. Compl. at ¶ 31. By 1988, publicly available reports and studies made clear “[e]rosion and disintegration of the banks of the MR-GO has created many additional routes for saltwater to intrude into formerly less saline interior marshes” and therefore “salinity in the marshes has increased significantly” over the prior 20 years. 1988 Reconnaissance Report at 27. The report concluded “[s]altwater intrusion . . . contributes significantly to marsh loss in the study area.” *Id.*

⁸⁷ Between 1960 and 2000, brackish marsh decreased by 6,346 acres, salt marsh increased by 3,018 acres, swamp decreased by 345 acres, and the area of open water increased by 3,835. *Id.* at 57.

Based on the evidence currently before the Court, plaintiffs' claims likely stabilized at some point between 1984, when the Corps published the *Louisiana Coastal Area, Louisiana Land Loss, and Marsh* report noting the value of beneficial dredge materials in creating thousands of acres of marshland, and 1988, when the government published the 1988 Reconnaissance Report noting the significant increase in salinity and corresponding erosion in the marshlands of Category Six. Therefore, for the purposes of the cross-motion for summary judgment, absent justifiable uncertainty the six-year statute of limitations period for plaintiffs' claims related to the marshland of Category Six expired in 1994. *See Applegate*, 25 F.3d at 1583.

2. Justifiable Uncertainty

For landowners to be "justifiably uncertain" as to the permanency of the alleged taking, the "question is whether the 'predictability [and permanence] of the extent of damage to the [plaintiffs'] land' was made justifiably uncertain by the Corps' mitigation efforts." *Banks*, 314 F.3d at 1309 (citing *Applegate*, 25 F.3d at 1583). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have "stabilized." *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings of marshlands in Category Six and therefore tolled the statute of limitations, the Court twice had plaintiffs provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category Six, and the government had opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All of the projects plaintiffs provided the Court as applicable to the justifiable uncertainty analysis are considered in the Court's analysis.⁸⁸

In support of the existence of justifiable uncertainty by the landowners in Category Six, plaintiffs cite in their supplemental papers "projects, including installation of foreshore protection and beneficial use of dredged material in the years 1985–2003, 1992, 1996, and 2000 as shown in the exhibits attached to ECF Doc. 119; Power Point entitled 'Mississippi Gulf Outlet Studies, Dated April 6, 2004.'" Pls.' Supp. Paper at 31. Plaintiffs cite the "exhibits attached to ECF Doc. 119" as supporting the justifiable uncertainty analysis, but the single exhibit attached to ECF No. 119 does not contain the quoted material plaintiffs cite. Instead, the only exhibit attached to ECF No. 119 is a document submitted in support of plaintiffs' motion for partial summary judgment titled "Capitol Hill Hearing Testimony." *See* Pls.' Notice of Filing Ex. Submitted (1) In Opposition to the United States' Mot. for Summary J. on the Issue of the Timeliness of the Pls.' Takings Claim and (2) In Support of Pls.' Cross-Mot. for Summ. J. on the Same Issue, ECF No. 119, Ex. 1 (Capitol Hill Hearing Testimony). Plaintiffs' list of proposed projects and studies includes the 1998 Coast 2050 report, which proposed a restoration plan implementing a "dedicated delivery of sediment for marsh building" which "could be pumped from adjacent lakes or rivers to create marsh in several units . . . [and] is projected to create a moderate amount of marsh." Coast 2050 Report at 87. A landowner need not receive "a legal binding promise or duty or a matter requiring a congressional appropriation" to be justifiably

⁸⁸ *See supra* Section XI.A.2.

uncertain as to the permanency of an alleged taking. *Banks*, 314 F.3d at 1309. Rather, the “mere promise” of mitigation efforts, “held out by the Corps and repeatedly renewed but never implemented, indicate[s] that ‘the landowners did not know when or if their land would be permanently destroyed.’” *Id.* (quoting *Applegate*, 25 F.3d at 1583). “[P]roposals to correct the damage” done to the land put forward by the government can “further complicate[] ascertaining the extent and nature of the consequences” of the physical taking enough to trigger the doctrine of justifiable uncertainty. *Applegate*, 25 F.3d at 1584.

Although plaintiffs failed to provide a correct citation, Exhibit 60 attached to plaintiffs’ reply brief describes five separate beneficial use sites of dredged material in Eloi Bay apparently active at various points between 1985 and 2003.⁸⁹ In the 1990s, the Corps also began additional plans and projects directed to a primary goal that there should be “no overall net loss of the Nation’s remaining wetlands base”⁹⁰ 1990 WRDA at § 307(a). By the late 1990s, and stretching into the early 2000s, the Corps continued implementing and planning additional projects to further mitigate any alleged negative effects to the marshlands.⁹¹ Following Hurricane Katrina in 2005, additional projects were contemplated and implemented which effected marshland areas of Eloi Bay.⁹² The multiple examples of dredge material use sites noted in Exhibit 60 (utilized from 1985 to 2003), as well as the various proposed and completed projects in the 1990s and 2000s, all combine to create a multi-decade period where landowners may have been “justifiably uncertain” as to the permanency of alleged takings in Category Six. *Banks*, 314 F.3d at 1309–10.

The evidence available in the record shows plaintiffs’ claims likely stabilized at some point between 1985 and 1988. Viewing the evidence in the light most favorable to the plaintiff, however, stabilization of plaintiffs’ takings claims in Category One occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. The Court therefore concludes the evidence before it, read in the light most favorable to plaintiffs, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government

⁸⁹ Exhibit 60 is a map titled “Beneficial Use Through MRGO O&M Dredging Miles 60 to 20” and depicts beneficial use of dredged material sites both north and south of the MRGO. Pls.’ Reply Br. Opp’n, Ex. 60. Two of the beneficial use of dredged material locations in Category Six include dates of “FY 85 THRU 03.” *Id.* Two additional locations include dates of “FY 92 & 96.” *Id.* Lastly, three separate locations include the date “00.” *Id.*

⁹⁰ See *supra* Section VI.b.

⁹¹ In 1999, under the 1996 WRDA, the Corps conducted three projects along the MRGO to create 76 acres of wetlands with materials dredged from the channel. See Am. Compl. at ¶ 53. In the 2004 USCAE LCA Ecosystem Restoration study, the Corps warned that the “rate of wetland loss in the area is accelerating” and “rapid action is required to protect the integrity of the southern lake Borgne shoreline and to prevent continued erosion of the MRGO channel banks from ocean going vessel wakes.” Pls.’ Mot. for Partial Summ. J., Ex. 45 at 31 (U.S. Army Corps of Engineers, Louisiana Coastal Area (LCA), Louisiana, Ecosystem Restoration Study (November 2004)). The Corps proposed building 38 miles of rock breakwaters to prevent the merger of the MRGO into Lake Borgne, facilitating wetland creation by using dedicated dredging and or beneficial use of dredged materials behind the breakwaters, and freshwater introduction into the marsh through Mississippi River diversions. *Id.* at 32. Additionally, in 2004, the Corps presented in a Power Point the Breaux Act Projects, with four projects included in the PED and two constructed projects. Pls.’ Reply Br. Opp’n, Ex. 56 at 46–47 (U.S. Army Corps of Engineers, MRGO Studies). The PED projects included two shoreline protection projects along Lake Borgne and the MRGO with an estimated cost of \$45 million to benefit 495 acres of land, and the constructed projects included two hydrologic restoration projects in the same area which cost \$2.6 million and benefited 889 acres. *Id.*

⁹² See *supra* Section VI.b.

must create “justifiable uncertainty about the permanency of the taking,” and plaintiffs must be “aware of [mitigation] plans” during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. The proposed freshwater diversion program explicitly envisioned creating marshlands through a process of reversing the salinity-induced erosion plaintiffs claim effectuated a taking in the first place. The government further proposed and completed various projects involving the beneficial use of dredged materials and construction of foreshore protections in Category Six between 1985 and 2003, as well as additional projects following Hurricane Katrina in 2005. Reading the evidence of proposed and completed mitigation efforts in the light most favorable to the plaintiff, justifiable uncertainty may toll the statute of limitations on plaintiffs’ claims related to the marshlands of Category Six. *See id.*

XII. Analysis of Category Seven – Jean Louis Robin

Jean Louis Robin corresponds to geographical “Subunit 23” of Exhibit 1 contained in the 2012 Feasibility Report. *See* 2012 Feasibility Report at 2-58. Subunit 23 includes Terre Aux Boeufs,⁹³ Lake Eugenie,⁹⁴ and Biloxi⁹⁵ properties. *See* JSR at 2. Similar to Category One, the subunit does not touch the MRGO channel bank but rather is separated from the channel by the MRGO Spoil Bank. *See id.*; 2012 Feasibility Report at 2-58. The majority of Jean Louis Robin “is [a] continuous land mass composed mostly of brackish to saline marshes, characterized by small lakes, bays, and meandering bayous.” King Report at 35.

A. Stabilization Doctrine

As discussed in Category One, plaintiffs assert saltwater intrusion from the MRGO caused additional saltwater intrusion into the South Lake Borgne marshlands. *See* Am. Compl. at ¶ 31. Plaintiffs also propose an alternative, yet related theory as to the nature of the alleged taking, where saltwater intrusion killed the natural vegetation of the marsh, which in turn reduced the volume of root systems and caused erosion. *Id.*

Prior to dredging of the MRGO, Category Seven was primarily composed of brackish and salt marshes.⁹⁶ After the MRGO opened, the subunit experienced a dramatic decrease in both salt and brackish marsh, which converted primarily from marshland to open water areas.⁹⁷ As with Category Five and Category Six, Jean Louis Robin opens directly to Chandeleur Sound, and “[t]he western and easternmost portions of this Zone experience the highest rates of erosion due to wave fetch coming in from both Lake Borgne to the west, and that which filters through the

⁹³ The Terra Aux Boeufs property “consists of two sections, Terre aux Boeufs-East, located north of the MRGO, and Terre aux Boeufs-West, located south of the MRGO.” 2018 Mendelssohn Report at 35. The Western portion of the property is in Jean Louis Robin. *Id.* at 42.

⁹⁴ For Lake Eugenie, a portion of the Western and Eastern properties are located in Jean Louis Robin. *See* 2012 Feasibility Report at 2-58

⁹⁵ A portion of Biloxi East is in Jean Louis Robin. *See* 2012 Feasibility Report at 2-58.

⁹⁶ In the 1950s “Jean Louis Robin was mainly brackish (32, 379 acres) and salt (20,571 acres) marsh.” Day Report at 44.

⁹⁷ From the 1950s to 1960s “there were a dramatic decrease in both brackish (-5,692 acres) and salt (-6,514 acres) marshes.” *Id.* at 46. From 1960 to 2000, intermediate marsh increased by 12 acres, brackish marsh decreased by 1,435, and salt decreased by 5,796 and water increased by 7,490 acres. *Id.* at 57.

bays and lakes to the east. . . . These problems occur on a daily basis and are exacerbated during tropical events.” King Report at 35.

Plaintiffs’ claims likely stabilized by at least 1984, when the Caernarvon freshwater diversion project was first proposed. The Caernarvon project was a freshwater diversion which sought to “convert[] many of the marshes in the Breton Sound basin from higher salinity to lower salinity types” Gov.’s Mot. for Summ. J., Ex. 17 (Assessment of Wetland Habitat Change on Terre Aux Boeufs and Vincent Marshlands Properties Adjacent to The Mississippi River Gulf Outlet (MRGO)) (“2018 Mendelssohn Report”) at 46. As with the Violet Siphon in Category One, planning and construction of the Caernarvon freshwater diversion project may indicate those installing the diversion were aware of the “substantial encroachment” of saltwater onto Category Six property, recognizing the encroachment of saltwater may result in the death of local flora sensitive to salinity changes and eventually lead to greater land erosion without freshwater diversions to counteract these effects.⁹⁸ See *Boling v. United States*, 220 F.3d 1365, 1372 (Fed. Cir. 2000) (the stabilization doctrine requires the Court to determine when there was sufficient “substantial encroachment” onto plaintiffs’ land to make plaintiffs aware of the alleged taking). By 1988, however, landowners had sufficient evidence of the substantial encroachment of saltwater onto their land. The 1988 Reconnaissance Report explicitly noted “salinity in the marshes has increased significantly in the last 20 years” and documented a corresponding vegetation and marsh loss in the marshlands surrounding the MRGO. 1988 Reconnaissance Report at 27. In 1988 landowners should have therefore been put on notice of the permanency of their takings claims through both the public statements by the government on saltwater intrusion and corresponding marsh loss, and through the physical effects of the saltwater intrusion documented in the 1988 Reconnaissance Report.

In summary, for Category Seven, the evidence in the record indicates “environmental forces . . . substantially and permanently invaded the private property” sufficient for the stabilization doctrine to apply at some point between 1984, when the Caernarvon freshwater diversion project was first planned, and 1988, when the 1988 Reconnaissance Report was published. *Boling*, 220 F.3d at 1371. Viewing the evidence in the light most favorable to the plaintiff for the purpose of the government’s motion for summary judgment, absent justifiable uncertainty the six-year statute of limitations period for plaintiffs’ claims related to the marshland of Category Two expired in 1994. See *Applegate v. United States*, 25 F.3d 1579, 1583 (Fed. Cir. 1994).

B. Justifiable Uncertainty

For landowners to be “justifiably uncertain” as to the permanency of the alleged taking, the “question is whether the ‘predictability [and permanence] of the extent of damage to the [plaintiffs’] land’ was made justifiably uncertain by the Corps’ mitigation efforts.” *Banks v. United States*. 314 F.3d 1304, 1309 (Fed. Cir. 2003). A project aimed at mitigating damages would constitute justifiable uncertainty as to the permanency of the alleged taking, thus tolling

⁹⁸ The government’s 1988 Reconnaissance Report in fact explicitly concluded the increased salinity levels contributed to the reduction of “the amount of three-cornered grass” growing in the local marshlands and “[s]altwater intrusion . . . contributes significantly to marsh loss in the study area.” 1988 Reconnaissance Report at 27.

the statute of limitations, if it was implemented after the date on which the Court deems plaintiffs alleged taking to have “stabilized.” *Id.* To determine whether proposed or actual mitigation efforts by the Corps made landowners justifiably uncertain as to the permanency of the alleged takings in Category Seven and therefore tolled the statute of limitations, the Court twice had plaintiffs provide supplemental briefing listing proposed and completed projects affecting the justifiable uncertainty analysis of Category Seven, and the government had an opportunity to respond to each. *See* Order, ECF No. 152; Order, ECF No. 160. All of the projects plaintiffs provided the Court as applicable to the justifiable uncertainty analysis are considered in the Court’s analysis.⁹⁹

Plaintiffs’ supplemental papers point to the completed Caernarvon freshwater diversion project, a 1984 evaluation report, and a 1993 Environmental Impact Statement as applicable projects to a justifiable uncertainty analysis. *See* Pls.’ Supp. Paper at 15–24. The Caernarvon freshwater diversion structure was first proposed in 1984, construction began in 1988, and it was completed in 1991.¹⁰⁰ *See* Pls.’ Mot. for Partial Summ. J., Ex. 42 at 5 (1994 MRGO Bank Erosion Reconnaissance Report). This diversion structure continues to operate today. *See* Pls.’ Supp. Paper at 24. The 1993 Louisiana Coastal Wetlands Restoration Plan emphasized “management of the Caernarvon Freshwater Diversion Structure’s outfall . . . is vital to the restoration of [the surrounding marshlands] because such projects will help to maintain and restore the hydrology of the basin.” *See* Pls.’ Supp. Paper at 23. Dr. Mendelssohn’s report similarly noted a decrease in the salinity of Category Seven from 1988 to 1997, “with brackish marsh increasing and saline marsh decreasing.” 2018 Mendelssohn Report at 7. Dr. Mendelssohn attributed “[t]he substantial increase in brackish marsh” as “due to the opening of the Caernarvon Freshwater Diversion in 1991.” *Id.* at 7–8. As with Category One, plaintiffs’ theory of takings is based on saltwater intrusion increasing the salinity of the marshland, which allegedly killed the natural vegetation of the marsh and led to erosion of soil no longer held in place by root systems. Am. Compl. at ¶ 31. A decrease in the salinity of marshlands following the construction of the freshwater diversion system could indicate to landowners in Category One the Caernarvon Diversion is both providing sediment dispersals through freshwater diversions and lowering the salinity of the surrounding marshlands to the point of dramatically slowing the rate of erosion. *Applegate*, 25 F.3d at 1583. As additional evidence of this, the Mendelssohn report explicitly notes Terra Aux Boeufs experienced a freshening effect from 1988 to 1997, consistent with the operation of the diversion.¹⁰¹ During this time the Corps

⁹⁹ Plaintiffs’ 15 June 2020 supplemental paper listed the following completed or proposed items applying to a justifiable uncertainty analysis for Category Seven: A 1994 USACE bank erosion report; the Louisiana Coastal Wetlands Restoration Plan of 1993; the 1988 Reconnaissance Report; the Mississippi River Gulf Outlet Ecosystem Restoration Plan’s Final Feasibility Report; and projects related to the beneficial use of dredged materials. *See* Pls.’ Paper at 7–8. Plaintiffs’ 30 June 2020 supplemental paper listed the following completed or proposed items applying to a justifiable uncertainty analysis for Category Seven: Feasibility reports recommending freshwater diversions into the region; studies, proposals, and reports contained in the 1984 Initial Evaluation Report; and the construction and operation of the Caernarvon freshwater diversion project. Pls.’ Supp. Paper at 15–24.

¹⁰⁰ The Corps prepared a report titled “Louisiana Coastal Area, Freshwater Diversion to Bataria and Breton Sound Basins” in September 1984. Pls.’ Mot. for Partial Summ. J., Ex. 42 at 5 (1994 MRGO Bank Erosion Reconnaissance Report). This report “recommended diverting Mississippi River water into the Breton Sound Basin near Caernarvon . . . to enhance habitat conditions and improve fish and wildlife resources.” *Id.* The freshwater diversions “would reduce land loss and save about 99,200 acres of marsh.” *Id.*

¹⁰¹ “The substantial increase in brackish marsh from 1988 to 1997 . . . was likely due to the opening of the Caernarvon freshwater diversion that converted many of the marshes in the Breton Sound basin from higher salinity

additionally undertook projects in the area for the beneficial use of dredged material,¹⁰² consistent with the Corps' goal of "no overall net loss of the Nation's remaining wetlands base." 1990 WRDA at § 307(a).¹⁰³

Viewing the evidence in the light most favorable to plaintiffs, stabilization of the plaintiffs' takings claims in Category One occurred by 1988, when the 1988 Reconnaissance Report was published and the physical changes should have been apparent. The Court therefore concludes the evidence before it, read in the light most favorable to the plaintiff, indicates stabilization occurred no later than 1988. To toll the statute of limitations after the claims have stabilized, proposed or completed mitigation efforts by the government must create "justifiable uncertainty about the permanency of the taking," and plaintiffs must be "aware of [mitigation] plans" during the period of time they were allegedly justifiably uncertain. *Boling*, 220 F.3d at 1372. The Caernarvon freshwater diversion project, proposed in 1984 and completed in 1988, had a dramatic freshening effect on the surrounding area and continues to operate. The Corps further proposed additional beneficial use dredging projects related to Category Seven. Reading the evidence of the proposed and completed mitigation efforts in the light most favorable to the plaintiffs, justifiable uncertainty may toll the statute of limitations on plaintiffs' claims related to Category Seven. *See id.*

XIII. Analysis of Category Eight – Lake Borgne

In the 8 May 2020 joint status report dividing the properties into various subunits for the purposes of stabilization and justifiable uncertainty analyses, both parties agreed to divide plaintiffs' property into categories one through seven. *See* JSR at 1–2. Plaintiffs, however, sought to also add an eighth subunit—Lake Borgne. *Id.* at 3–6. Lake Borgne corresponds to geographical "Subunit 26" of Exhibit 1 contained in the 2012 Feasibility Report. *See* 2012 Feasibility Report at 2-58. At oral argument, the government noted any land which would have eroded into Lake Borgne was originally part of one of the other seven subunits agreed to by the parties and argued such land should be calculated in a takings analysis as land lost from one of the other subunits. *See* ECF No. 159 at 4:51:30–4:52:05 (recording of oral argument). After oral argument, and in all supplemental briefing regarding projects that may apply to a justifiable uncertainty analysis for each proposed subsection, plaintiffs did not include any projects specifically directed to the proposed Category Eight. *See* Pls.' Supp. Paper; Gov.'s Resp. to Pls.' Supp. Paper.

As the government noted at oral argument, plaintiffs' claims all relate to land allegedly taken from one of the seven categories, rather than land existing in Lake Borgne prior to the construction of the MRGO. *See* 2012 Feasibility Report at 2-58. While plaintiffs did not explicitly agree to withdraw their request for an eighth subunit, they did not object at oral

to lower salinity types This freshening affect was most apparent in the western half of Breton Sound, where the 1988-brackish marshes transitioned to intermediate marshes in 1997." 2018 Mendelsohn Report at 46.

¹⁰² In 1998, EA #269 and EA #269-A detailed the Corps' establishment of additional disposal areas "from Miles 36.5 to 32 and Miles 49.0 to 46.5" and emphasized how the material would be placed into the disposal sites "in a manner conducive to wetland development, creating and/or restoring wetlands each cycle." Pls.' Mot. for Partial Summ. J., Ex. 25 at 1 (EA # 269 and EA # 269-A: South of Lake Borgne Additional Disposal Areas).

¹⁰³ *See supra* Section VI.b.

argument to the government’s characterization of plaintiffs’ claims as addressing only land originating from one of the seven categories already discussed and plaintiffs’ supplemental briefing following oral argument on projects related to the Court’s justifiable uncertainty analysis does not include any projects specifically affecting proposed Category Eight. *See* ECF No. 159 at 4:51:30–4:52:05 (recording of oral argument); Pls.’ Supp. Paper. Accordingly, the Court will not separately consider a distinct category of land now covered by Lake Borgne in its analysis, but rather agrees with the government’s summary that all land proposed by plaintiffs to be included in Category Eight has already been considered in one of the previous seven categories. *See supra* Sections VI–XII.

XIV. Summary of the Court’s Conclusions on Each Category of Land

The following chart summarizes the application of the stabilization and justifiable uncertainty doctrines to Categories One through Seven. The exact boundary lines between the individual subunits remain undefined. As this court acknowledged in past physical takings cases, such “issues . . . cannot be addressed without further factual development” for claims that “turn[] on disputed issues of material fact” are not ripe for summary judgment. *Pellegrini v. United States*, 132 Fed. Cl. 64, 73 (2017). While the Court sets out to resolve the timeliness of claims for the seven defined categories of land, the Court leaves for the parties or further proceedings to determine the applicability of this decision to various plaintiffs and their specific parcels of land.

Category	Range of Time the Stabilization Doctrine May Apply Under the Evidence Before the Court	Range of Time Landowners May Have Been Potentially Justifiably Uncertain	The Court’s ruling on the cross-motions for summary judgment
Category 1 (Central Wetlands)	1978–1988	1978–1983; 1990–2004; 2006–2012	DENYING government’s motion for summary judgment and DENYING plaintiffs’ motion for summary judgment
Category 2 (South Lake Borgne)-Channel	1983–1988	1988–2012	DENYING government’s motion for summary judgment and DENYING plaintiffs’ motion for summary judgment
Category 2 (South Lake Borgne)-Marshlands	1984–1988	1992–2012	DENYING government’s motion for summary judgment and

			DENYING plaintiffs' motion for summary judgment
Category 3 (MRGO Spoil Bank)	1983–1988	1983–2012	DENYING government's motion for summary judgment and DENYING plaintiffs' motion for summary judgment
Category 4 (Biloxi Marshes Interior)	1988	1993–2012	DENYING government's motion for summary judgment and DENYING plaintiffs' motion for summary judgment
Category 5 (Biloxi Marshes Exterior)	1988	1988–1996	GRANTING government's motion for summary judgment and DENYING plaintiffs' motion for summary judgment
Category 6 (Eloi Bay)- Channel	1985–1988	1988–2012	DENYING government's motion for summary judgment and DENYING plaintiffs' motion for summary judgment
Category 6 (Eloi Bay)- Marshland	1984–1988	1985–2012	DENYING government's motion for summary judgment and DENYING plaintiffs' motion for summary judgment
Category 7 (Jean Louis Robin)	1984–1988	1984–2012	DENYING government's motion for summary judgment and DENYING plaintiffs' motion for summary judgment

The six-year statute of limitations established under the Tucker Act “is an explicit condition of the government’s waiver of sovereign immunity and, as a matter of law, jurisdictional.” *Prakhin v. United States*, 131 Fed. Cl. 706, 713(2017) (citing *John R. Sand & Gravel Co. v. United States*, 552 U.S. 130, 139 (2008)). “Because the statute of limitations is jurisdictional, the plaintiff bears the burden of proof.” *Petro-Hunt, L.L.C. v. United States*, 862 F.3d 1370, 1378 (Fed. Cir. 2017). The government argues “substantially all of the habitat change [p]laintiffs complain of, and thousands of acres of land loss had occurred by at least 1988,” and, therefore, “[p]laintiffs’ claims accrued by at least 1988 and they were obligated to file suit by at least 1994.” Gov’t Mot. for Summ. J. at 26. Plaintiffs, meanwhile, argue the “gradual physical processes that have eroded and continue to erode plaintiffs’ properties” either “to this date have not stabilized” or, if the claims have stabilized, “stabilization did not occur until July 9, 2009, when the MRGO was finally physically closed . . .” Pls.’ Mot. for Partial Summ. J., Ex. 1 at 2. Viewing the evidence before the Court in favor of the non-moving party for the purpose of each of the cross-motions for summary judgment, stabilization of each of plaintiffs’ claims occurred at some point in a range of time starting in the late 1970s or early 1980s and ending in 1988. *See supra*. This in turn means the statute of limitations on each claim ran until 1994 or earlier, barring justifiable uncertainty. *Applegate*, 25 F.3d at 1583.

To establish justifiable uncertainty tolling the statute of limitations for a takings claim, plaintiffs must demonstrate “*the landowners* did not know when or if their land would be permanently destroyed.” *Applegate*, 25 F.3d at 1582 (emphasis added). This justifiable uncertainty as to “whether ‘the predictability [and permanence] of the extent of damage to the [plaintiffs’] land’” must be caused by the government’s “mitigation efforts.” *Banks*, 314 F.3d at 1309. Further, the Federal Circuit has made clear there can be no justifiable uncertainty when “the plaintiffs . . . were not aware of [mitigation] plans until after they filed [the] lawsuit.” *Boling*, 220 F.3d at 1372. The Court must look to what the particular landowners knew during the period of time plaintiffs claim the statute of limitations was tolled to determine whether or not the landowners were actually justifiably uncertain as to “when or if their land would be permanently destroyed.” *Applegate*, 25 F.3d at 1582.

Based on the range of possible stabilization dates, and examining the totality of the government’s actions in the form of previously completed projects and numerous studies, reports, legislation, and funding appropriated for future projects in the light most favorable to the non-moving party, the Court cannot definitively say whether or not the government’s actions created justifiable uncertainty as to the permanency of the alleged government taking beyond the specificity in the ranges noted *supra*. *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587–88 (1986) (noting the Court must draw all inferences “in the light most favorable to the party opposing the motion.”). The ultimate question in a justifiable uncertainty analysis is whether “*the landowners* [did or] did not know when or if their land would be permanently destroyed.” *Banks*, 314 F.3d at 1309 (quoting *Applegate*, 25 F.3d at 1583) (quotation marks removed) (emphasis added).

For Categories One, Two, Three, Four, Six, and Seven of land, plaintiffs have been able to establish justifiable uncertainty may toll the statute of limitations sufficient to overcome the government’s motion for summary judgment. *See supra* Sections VI, VII, VIII, IX, XI, and XII. In each section, plaintiffs have shown proposed or completed projects which, viewing the

evidence in the light most favorable to the plaintiffs, left landowners justifiably uncertain as to the permanency of the alleged taking. *See supra*.

While the record contains various proposed and completed projects affecting each category of land, however, it does not foreclose the possibility a landowner did not have actual knowledge of enough of the proposed and completed mitigation projects to be justifiably uncertain as to the permanency of the alleged taking. *Applegate*, 25 F.3d at 1583 (finding “the landowners remain justifiably uncertain about the permanency of the erosion and the taking” because of the government’s promise to mitigate). At any future trial the Court will have to closely examine the specific knowledge landowners had related to the proposed and completed mitigation actions contained in the record and whether these actions resulted in justifiable uncertainty on the part of the landowners as to the permanency of the government’s taking. *See, e.g., Henderson County Drainage Dist. No. 3 v. United States*, 60 Fed. Cl. 748 (2004) (relying on witness and expert testimony related to documents in the record presented at trial in part to rule on whether plaintiffs’ takings claims related to the operation and maintenance of a navigation channel was justifiably delayed); *Kingsport Horizontal Property Regime v. United States*, 53 Fed. Cl. 556 (2002) (utilizing expert and witness testimony, as well as surveys entered into the record, presented to the court during a trial to determine whether the stabilization doctrine applied to different tracts of land). Without an examination of what the specific landowners knew and how this knowledge affected their potential uncertainty regarding the permanency of any taking, the Court cannot say whether the mitigation projects presented by plaintiffs as applicable to the justifiable uncertainty doctrine actually tolled the statute of limitations after the takings claims stabilized.

XV. Conclusion

In each of the seven categories of property considered by the Court, and viewing the evidence in the light most favorable to the non-moving party for each summary judgment motion, the stabilization doctrine started the statute of limitations on plaintiffs’ claims during time ranges varying by category, but in each case no later than 1988. Reviewing evidence in the light most favorable to plaintiff, the proposed and completed projects in Categories One, Two, Three, Four, Six, and Seven, however, result in landowners who were, or may have been, “justifiably uncertain” as to the permanency of alleged taking and therefore may have tolled the statute of limitations. The Court cannot definitively say, however, landowners were justifiably uncertain without further evidence regarding what landowners knew about the proposed and completed projects, and how this relates to any uncertainty as to the permanency of the alleged takings. Accordingly, the Court **GRANTS-IN-PART** and **DENIES-IN-PART** the government’s motion for summary judgment. Further, the Court **DENIES** plaintiffs’ cross-motion for summary judgment. The parties shall meet and confer and submit a joint status report proposing a timeline for further proceedings consistent with this opinion on or before **19 February 2021**. The joint status report shall include: (1) whether the parties intend to submit motions to resolve plaintiffs’ contractual claims, or address those claims at trial; (2) whether the parties will request further discovery before trial; and (3) scheduling suggestions to begin planning trial proceedings including respective positions on bifurcating any claims or testimony, location for trial proceedings, and time limits for trial presentation and testimony.

IT IS SO ORDERED.

s/ Ryan T. Holte
RYAN T. HOLTE
Judge